# THE
# EXTRA PHARMACOPŒIA

MARTINDALE
AND
WESTCOTT

TENTH EDITION
1901

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# THE

# EXTRA PHARMACOPŒIA

NEVE & Co. CHEMISTS
HASTINGS
12, WELLINGTON PLACE

BY

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# PREFACE TO THE TENTH EDITION.

SINCE the publication of the last British Pharmacopœia a new edition of the Pharmacopœa Germanica has been published; an Indian and Colonial Addendum to the British Pharmacopœia 1898, and a Supplement to the Austrian Pharmacopœia, as well as a revision of the Formulary of the British Pharmaceutical Conference have been issued, and most of the London Hospitals have had their Pharmacopœias revised in accordance with the official work of 1898. In preparing this —our Tenth Edition—we have, from a pharmaceutical point of view, made a careful study of all these, prepared abstracts from them, and noted the current literature on our subjects, so as to enable our readers to have a fair review of the condition of Pharmacy and Therapeutics at the present time.

Synthetic compounds continue to be in demand. Enterprising manufacturers are desirous of pressing upon therapeutists and others interested in the relief of pain and suffering, the qualities of their preparations; and, although the dream of Hoffman to produce Quinine synthetically from a coal tar derivative has not been realised, yet several antipyretics have been obtained from this source, and some synthetic local anæsthetics have been able to compete with Cocaine. Euphthalmine also competes with the alkaloids of vegetable origin, for producing mydriasis. The chemical products of vegetable origin have not attracted much attention, with the exception of certain Morphine Derivatives, and Pilocarpine Salts, which are now defined in a purer condition than formerly. The debate on the Solanaceous Alkaloids still continues, with the result that so far Atroscine, a crystallizable alkaloid, is found to be most useful as a mydriatic.

Among **Anæsthetics**, Ethyl Chloride and medications thereof, have been found of service, especially in dental practice. Ethyl Chloride besides being employed locally, can now with a suitable mask, be used for general anæsthesia. Acoïn and Nirvanin are synthetic bodies possessing local anæsthetic properties similar to Eucaine. **Aseptic Dressings**—Sterilized Gauze and Wool—rather than Antiseptic Dressings are in favour for hospital work. Of **Aperients**, Aloetic —, Cascara —, Rhubarb —, and Senna Compounds continue to hold their place. Of the last we give a formula of an agreeable combination as an Elixir of Figs. Preparations of Turpeth Root and of Kaladana are introduced into the Indian and Colonial Addendum to the British Pharmacopœia. The **Arsenical contamination** of Sulphuric Acid, and of the numerous products in which its aid is employed, has rendered great care necessary in the production of the latter for use in medicine. Of **Astringents** internal, Tanocol and Honthin are noted in the following pages, and of those intended for external use and as mild caustics, a number of silver combinations, known as Argonin, Largin, Collargol, Ichthargan, and Protargol have attracted attention. **Counter-irritants** are represented by Mylabris, a blistering fly from the East, rich in Cantharidin, and by additional Capsicum and Mustard preparations. Some pre-digested **Food**, and **Blood Preparations** are likewise noted. For **Gastric Diseases** certain Bismuth Compounds have been added to our medicaments—the Benzoate, Oxybromide, 'Phosphate,' Sulphocarbolate, Sulphocyanide and a Sedative Mixture of Bismuth. Calcium Peroxide is recommended for infantile dyspepsia. As **Germicides**, Hydrogen Peroxide meets with favour in France and America for antiseptic lotions, and solutions of Mercuric Ethylene-diamine Salts are suggested as skin detergents. For internal use the Persulphates are worthy of attention. For **Gout and Rheumatism**, Amyl Salicylate is commended for use externally, and Aspirin, Acetopyrin, Piperidine Tartrate and Guaiacolate, Quinic Acid, and Lithium—, Piperazine—and Urotropine Quinates, as well as Urea and its combination with Salicylic Acid, known as Ursal, are used internally. As **Hæmostatics**, Cupri-Aseptol, Erigeron Canadense Oil, and Gelatin solution injected hypodermically are finding favour. As **Hypnotics** and **Sedatives**, Amylene-Chloral (Dormiol), Acetone-

Chloroform (Chloretone), and Hedonal (the Urethane of a secondary Amyl Alcohol) as synthetic compounds, various Morphine Derivatives (Dionin, Heroin and Peronin), preparations of Codeine, and a liquid Extract of Conium have also found favour.

As **Nervine Sedatives** a Bromine Compound, Brominoleum (Bromipin) a brominized oil is used, and Iodinoleum (Iodipin) a corresponding Iodine preparation, as well as Hydriodol, an oily solution of Mercuric Iodide, have been recommended for **Specific Diseases**. As **Nervine** and **Cardiac Tonics**, Barium Chloride, the Salts of Gold, and Glycerophosphate Preparations, Digitaline, Digitoxin and the Concentrated Infusion of Digitalis hold their own and have merited notice in the following pages. In **Ophthalmic Surgery**, the Castor Oil Solutions of the bases Atropine, Atroscine, Cocaine, Duboisine, Gelsemine, Homatropine, Hyoscine, Hyoscyamine, Physostigmine, Pilocarpine, and Scopolamine are proving worthy of the more careful therapeutic investigation of these alkaloids. The prevalence of **Phthisis** has been lessened within the last fifty years by sanitation, the 'mountain' and the 'open air' treatments, and by various medicinal agents. Some of these last have not proved a great success, such as Carbon Dioxide and Sulphuretted Hydrogen by rectal injections, Tuberculin, Zinc Chloride, and Potassium Cantharidate by hypodermic injections, and Aniline Inhalations. There have been, however, beneficial results from Cod Liver Oil and Quinine, the Hypophosphites, and from Creosote and Guaiacol compounds. Latterly the treatments by Arsenic and Cacodyle compounds of Hoff and Gautier, which have attracted considerable attention, appear also to be giving satisfactory results. The prophylactic treatment for those who, like the child of a phthisical mother, may be brought in contact with tuberculous patients, is one which is also receiving due consideration, and there are numerous preparations for the complete disinfection of the ejections, emanations, and effluvia of diseased patients. In **Skin Diseases**, new Pyrogallol, Naphthol Chrysarobin, and Resorcin derivatives, and compounds of Ichthyol are commended to notice for topical use, whilst Sassafras Oil for pediculi, and Nicotine Salicylate for parasitic skin diseases are proving successful. As **Emollients**, Gelanthum and other Lubricants are useful bases for skin applications. For **Syphilis**, Calcium Iodate proves a substitute for Iodoform, and internally an intestinal antiseptic; while Mercurial Preparations, such as Hyrgol (a colloid form of Mercury), Hydriodol before mentioned, and Mercuriol or Mercuramalgam worn in a sachet, are recommended. Mercurol, a Nuclein compound of Mercury, is used in Urinary Diseases. For the latter also we give a series of medicinal compounds prepared from Copaiba and Yellow Santal Wood. **Vanadium** compounds have been used as tonics, but are unstable; whilst preparations of **Yeast** are proving serviceable in the treatment of boils, carbuncles, cancer, and septicæmia. A group of **Tæniacides** is referred to, and a class of **Triturations** and **Levigations**, which contain respectively 10 and [illegible] per cent. of active medicines diluted with Milk Sugar, will prove worthy of notice. The **Medical References** from current literature have been accepted after due consideration, and the **Therapeutic Index** of Diseases has been increased to accord therewith. The **Sections** on **Antitoxins**, **Serums**, **Vaccines**, and **Animal Organotherapy** have been carefully revised—in this we have had the assistance of Professor Sims Woodhead; while a **Section** devoted to **Analytical Memoranda**, containing the **Chemical Tests** (revised), **Bacteriological Notes**, **Microscopic Methods**, and **Modes of Preparation** of **Sterile Culture Media**, has been contributed by W. Harrison Martindale, Ph.D.Marburg, who has aided in producing this edition. These changes and additions have again necessitated a judicious excision of some of the contents of former editions.

The **Indian** and **Colonial Addendum** to the British Pharmacopœia (*v.p.*xxiv.) produced in the autumn of last year, is a collated summary of the remedies used in the Colonies, but more particularly in India, which have not previously found official recognition. Most of the drugs mentioned were known to us. These drugs are now more especially brought under the notice of the medical practitioners of the various dependencies of the British Empire, so as to develop the resources of these, and with the idea that preparations of the drugs may be prescribed as substitutes for those already official, *e.g.*, Wattle Bark may replace Oak Bark (which, by the way, as Tannic Acid can now be purchased cheaply, has entirely fallen into disuse medically); Coscinium and Tinospora may replace Calumba, all of which are imported from India; Urginea Indica, the Indian Squill, replace the official Squill from Urginea Scilla; Kaladana Seeds and Turpeth Root may be prescribed in place of Jalap; Sappan, in place of Logwood; Indian Podophyllum Resin from *P. Emodi* may replace that obtained from American Podophyllum Root; in India and some Colonies, Sesame Oil and Earth-nut Oil may be employed in place of Olive Oil; Black Myrobalans, be prescribed in place of Galls; Mylabris, replace Cantharides; Ghatti Gum, Gum Acacia; Black Catechu or 'Cutch,' Pale Catechu or 'Gambier'; Indian Gamboge, the official Gamboge; and Bengal Kino and Botany Bay Kino, the official Kino which commercially is much more valuable. Such suggestions of "alternative substances," to the prescriber even, are a dangerous innovation. Sesame Oil and Arachis Oil are very good bland oils, and if in India they may be employed—well, as substitutes—for Olive Oil "in making the official Liniments, Ointments and Plasters," where is the line to be drawn? To this permissive substitution is in some cases added a redundancy of drugs, *e.g.*, the only kind of Botany Bay Kino of value medicinally was already official as Eucalyptus Gum; again Aurantii Cortex Indicus is now specially introduced, whereas it is not excluded from the British Pharmacopœia if it be the bitter variety from *Citrus Aurantium, var. Bigaradia*, "grown in India and Ceylon." Alstonia may be two very different drugs if obtained from *A. constricta* or *A. scholaris*; these we have described in several previous editions. The bark of *A. constricta* from Australia possesses about three times the potency of Dita Bark (*A. scholaris*) from India and the Philippines.—P.J, i./01,362, Many of the pharmaceutical processes in this Addendum appear not to have been tested practically, *e.g.*, in preparing Liquid Extract of Couch Grass the drug is directed to be digested for six hours with five times its weight of boiling distilled water, and the operation is to be repeated twice. The first quantity of water does little more than completely saturate the drug: very little liquid can be poured off, so that a double quantity might as well have been added on the first occasion. The three successive infusions when mixed and evaporated with the addition of one-third of alcohol form a liquor, which after standing twenty-four hours is directed to be filtered, but such a mucilaginous mixture cannot be filtered. In the formula for Extractum Grindeliæ Liquidum distilled water 10 ounces are ordered. At least 15 or more ounces are required for the process. In making Acetum Urgineæ (corresponding to Acetum Scillæ), the Indian Squill is to be bruised: whether in the fresh or dried state is not stated, which makes the preparation a very indefinite one. Some of the drugs, if introduced on their own merits, might prove of service, but we question if many of them will meet with any general recognition even in India or the Colonies.

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April 29th, 1901.

# PREFACE TO THE NINTH EDITION.

About three years have elapsed since the publication of our last issue. During this period the 'British Pharmacopœia' has undergone a revision in which one of us has assisted. This arduous work has just terminated with its publication, others must judge of its merits and demerits.

* * * * *

The principal changes effected in our work have been due to its revision with a view to bring it into accordance with the recent official Pharmacopœia; of the newer unofficial remedies we give numerous details and references to their use.

New synthetic compounds having local anæsthetic properties allied to Cocaine—Eucaine, Holocaine, and, lastly, Orthoform—have been studied chemically, physiologically, and therapeutically. As vaso-dilators, Erythrol and Mannitol Nitrates, as well as Nitroglycerin (Trinitrin) and Amyl Nitrite, have attracted attention. Compounds of Silver, the Citrate and Lactate, Argentol, Argonin and Protargol have been introduced to medical practice, and are noticed. The compounds of Glycerophosphoric Acid have been employed as nervine tonics. New Bismuth compounds, Chlorodyne equivalents, Iodoform succedanea, Antipyretics, and Antiseptics, for internal as well as external use, have been largely used; the last group includes Chinosol, Creosote and Guaiacol compounds. Formaldehyde compounds have been used as disinfectants. The Official groups of Concentrated Infusions, Lozenges, Pills, Ointments, and Paraffins are also described and commented on.

The controversies on Hyoscine and Scopolamine, and on Pilocarpine and Pilocarpidine, are likewise referred to, as well as Euphthalmine—a synthetic compound for producing mydriasis—and Urotropine, a solvent of Uric Acid designed to assist in its elimination. New monographs have been introduced on Aloes, Calcium Compounds, Chelidonium, Digitalis, Compounds of Mercury and of Iron, Mustard, Opium, Orange, Rose, Mescal Buttons, and other drugs. The revolution in the official strength of Alcohol is explained by two tables, which will be found of practical utility for the preparation of the 'several degrees of dilution.'

We have revised the work on 'Antitoxins, Serums and Lymphs,' by noting the extended use of Serotherapy and Organotherapy; the diagnostic value of Mallein and Tuberculin, and the Widal test for Typhoid Fever; and also the use of Serums and Antitoxins as prophylactics against Diphtheria and Typhoid.

* * * * *

# WEIGHTS AND MEASURES.

THE British Pharmacopœia has now adopted a dual system of weights and measures in all its formulæ, except those employed for testing, and states that:—

"The alternative employment, in the British Pharmacopœias ' of 1867 and 1885, of metric weights and measures in the paragraphs relating to volumetric analysis, is now extended to ' every official paragraph which makes reference to the usual ' Imperial weights and measures; but the metric system alone ' is employed in all paragraphs relating to analysis, whether ' gravimetric or volumetric.

' During the period of transition from the Imperial to the ' metric system a certain amount of confusion is likely to ' occur. It has been somewhat difficult, in the course of a ' single paragraph, to embody formulæ involving definite ' quantities of materials, and to give precise directions for ' their employment, in two different systems of weights and ' measures; and those who use the Pharmacopœia are ' requested to avoid the assumption that Imperial and metric ' quantities thus placed in juxtaposition are necessarily ' equivalent to one another. They are approximately equivalent in paragraphs on crude drugs; they are not equivalent ' in paragraphs which describe the manufacture of galenical ' preparations. Except for wholly insignificant fractional ' differences, a preparation made according to either system ' will contain the same proportions of ingredients; but, as a ' matter of course, the two systems cannot both be used in the ' same operation.

' It is to be regretted, from a theoretical point of view, that ' the graduation, and in certain cases the employment by ' analysts, of Imperial and metric vessels for purposes of ' measurement, and the adjustment and in most cases the ' employment of vessels for determining specific gravities, are ' not conducted at one and the same temperature. But the ' practical advantage of rendering these temperatures identical ' would be insignificant, while the resulting confusion would 'be serious. As regards such operations, therefore, the 'Pharmacopœia remains in harmony with the procedure 'hitherto customary amongst the physicists, chemists, and 'pharmacists of the Empire: that is to say, it continues to 'use Imperial measuring vessels graduated at 62° F. (16·7° C), 'and the official names of Imperial capacity-units as defined 'at that temperature, together with the official names of 'metric capacity-units as defined at 39·2° F. (4° C.); while it 'employs metric measures and volumetric vessels graduated 'at 60° F. (15·5° C.)."

To aid the transition, therefore, and avoid confusion as much as possible, we have in a measure followed the commendable precedent of the first official German Pharmacopœia and the United States Pharmacopœia of 1883. In both of these, with exceptions, parts by weight were employed. We have now extended the plan, used to some extent in our former editions, of giving formulæ in 'proportional parts,' solids by weight, and liquids by *measure*, as English dispensing of liquids is always conducted by measuring. Exceptions to this rule are in the abstracted formulæ, and those from unofficial sources (in order not to interfere with the strict accuracy of either); that is, the denomination in other formulæ is omitted. In those, therefore, in which 'proportional parts' are used, the quantities of solids and liquids at 60° F. (15·5° C.) may be taken respectively in grammes and cubic centimetres, ounces and fluid ounces, grains and (to be strictly accurate) grain measures, but minims in place of the latter will, for practical purposes, often be used, and only cause one-eleventh *minus* error.

We have further given in the body of the work (but not in the Secondary List or Index) the approximate doses of each drug and preparation in terms of the metric system—that is, in decimal parts of a gramme and cubic centimetre or multiples thereof, the quantities being inserted in parentheses following those given in the Imperial system. For practical purposes, they might be further 'rounded off'; a fluid drachm might be considered as 4 cubic centimetres; 60 grains as 4 grammes; the avoirdupois ounce (about 28⅓ grammes) might be taken as 30 grammes; the fluid ounce as 30 cubic centimetres; and the pound avoirdupois as half a kilogramme (approximately it is nine-twentieths). Probably these quantities will become legalised, as was done in France, as the quantities to be sold when an ounce or pound respectively is demanded.

In further trying to think in the metric system, prescribers may consider the English grain as 65 milligrammes (0·065 gramme), 1½ grains as 10 centigrammes, and 17 minims as approximately 1 cubic centimetre. (See table, p. xv.).

Following the U.S. Pharmacopœia, we have abbreviated the word gramme to **Gm.**, and the words cubic centimetre to **Cc.** The contraction **Gm.** being printed in heavier type and with a capital initial letter, as we recommend it to be written, will distinguish it from gr., the usual contraction for grain. The latter we have only used in the index. For practical reasons and quick reference in the Index and Posological Table, the doses are only given in the Imperial system.

As nearly all English hypodermic syringes are graduated in minims, in the unofficial formulæ for hypodermic injections, a further exception is made; that is, we continue to use Imperial measures only, so that a minim shall contain an aliquot part of a grain of a potent medicine. To avoid, also, too great confusion of the two systems the contents of the unofficial lamels and discs are not given in metric terms.

It would be of general advantage if the English term minim (commonly but erroneously understood to be a drop of liquid) were abandoned as it has been in all other scientific work. A drop, as one of us has elsewhere suggested (P.J. 1876,679), might be considered as $\frac{1}{20}$ of a cubic centimetre, or about ⅞ of a minim, thus nearer the quantity of an ordinary drop and therefore might be termed a 'gout' (Fr.

*goutte*). Hence approximately by gradation, omitting the affix '-ful,' we should have—

85 minims = 100 gouts = 5 Cc.* = 1 teaspoon.

$$255 \text{ minims} = 300 \text{ gouts} = 15 \text{ Cc.}^* = \left\{ \begin{array}{l} 3 \text{ teaspoons} \\ 1 \text{ tablespoon.} \end{array} \right.$$

$$1020 \text{ minims} = 1200 \text{ gouts} = 60 \text{ Cc.} = \left\{ \begin{array}{l} 12 \text{ teaspoons} \\ 4 \text{ tablespoons} \\ 1 \text{ wineglass.} \end{array} \right.$$

$$250 \text{ Cc.} = 50 \text{ teaspoons} = \left\{ \begin{array}{l} 16 \text{ tablespoons (about),} \\ 4 \text{ wineglasses,} \\ 1 \text{ tumbler.} \end{array} \right.$$

Of mobile liquids, such as Ether, Chloroform, Tincture of Digitalis, Almond Oil, and Oleic Acid, a drop is much smaller than that of water (varying, of course, with the neck of the bottle from which it is dropped). In the case of Oleic Acid, Almond, Olive, and other light oils, the 'drop,' on an average, weighs half a grain, and in place of weighing small quantities of these, we have recommended, for practical purposes, that two drops may be considered as the equivalent of one grain.

The measure of 1,000 cubic centimetres recognised by the Pharmacopœia is not the same thing as a litre, which is the volume of 1,000 grammes of distilled water at its temperature of maximum density, 4° C. and 760 mm. barometric pressure (B.P. p. 430), whereas the measure of 1,000 cubic centimetres, B.P., is the volume occupied by 1,000 grammes of distilled water at 15·5° C., the difference being that 1 cubic centimetre is stated to be equal to 0·99984 millilitre, a millilitre therefore equals 1·00016 Cc. In the operations of the Pharmacopœia the volume of 1,000 grammes at 15·5° C. is directed to be employed in the place of the standard litre.

We trust that our readers may soon be able to become familiar with the quantities and doses in terms of the Metric System, which it is hoped will, ere long, supersede the old system. Probably the greatest difficulty will be the introduction of conveniently-sized medicine bottles to contain the metric equivalents of the household measures, teaspoonful and tablespoonful. The sizes of bottles in most frequent use in France are:—

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* These quantities are respectively those recognised by the French Codex for a teaspoonful and a tablespoonful.

1,000 cubic centimetres = about 35 ounces.
500 ,, ,, = ,, 17½ ,,
250 ,, ,, = ,, 8¾ ,,
200 ,, ,, = ,, 7 ,,
125 ,, ,, = ,, 35 drachms.
100 ,, ,, = ,, 3½ ounces.
50 ,, ,, = ,, 1¾ ,,
25 ,, ,, = ,, 7 drachms.

Mixtures are usually prescribed, not in decimal parts of a litre, but ¼ (250 Cc.), ⅛ (125 Cc.), &c., and drops in quantities of 60 30, and 15 Cc.—P.J. i./98,250.

## METRIC WEIGHTS AND MEASURES AND THEIR BRITISH EQUIVALENTS.

1 Gramme (Gm.)... ... ... = 15·4323564 grains.
1 Centigramme (Cgm.)... ... = 0·154323 grain.
1 Milligramme (Mgm.)... ... = 0·015432 grain.
1 Litre ... ... ... ... = 35·196 fluid ounces.
1 Cubic Centimetre (Cc.) ... = 16·95 minims (nearly).
1 Metre ... ... ... ... = 39·370113 inches.

The Gramme has its decimal multiples—Decagramme, Hectogramme, and Kilogramme; and divisions—Decigramme, Centigramme, and Milligramme. The Litre and Metre have their corresponding decimal divisions—Decilitre, Centilitre, and Millilitre, -and Decimetre, Centimetre, and Millimetre.

In Continental states, where this system is now generally adopted for the dispensing and preparing of medicines, all liquids are weighed, and the terms Gramme, Centigramme, and Kilogramme only are used. This avoids the possibility of errors, which the similarity of the names Decagramme and Decigramme might lead to.

In Germany the quantities of the ingredients in prescriptions are written in decimal proportions, the gramme being understood to be the unit; the name of the integer is generally not mentioned, thus:

Rhubarb 35· means 35 grammes of Rhubarb.
,, ·035 ,, 35 milligrammes ,,

The partial adoption of the Metric System in the British Pharmacopœia is a progressive step, but its general adoption in Pharmacy is still a desideratum.

# TABLE
OF
# APPROXIMATE EQUIVALENT DOSES
IN TERMS OF THE
# IMPERIAL AND METRIC SYSTEMS.

## WEIGHTS.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1/100 | grain | =0·00065 | gramme | 3 | grains | = 0·2 | gramme |
| 1/64 | " | =0·001 | " | 4 | " | = 0·26 | " |
| 1/50 | " | =0·0013 | " | 5 | " | = 0·32 | " |
| 1/40 | " | =0·0016 | " | 6 | " | = 0·4 | " |
| 1/32 | " | =0·002 | " | 7 | " | = 0·46 | " |
| 1/30 | " | =0·0022 | " | 8 | " | = 0·52 | " |
| 1/25 | " | =0·0026 | " | 9 | " | = 0·6 | " |
| 1/20 | " | =0·0032 | " | 10 | " | = 0·65 | " |
| 1/16 | " | =0·004 | " | 12 | " | = 0·8 | " |
| 1/12 | " | =0·0054 | " | 15 | " | = 1·0 | " |
| 1/10 | " | =0·0065 | " | 20 | " | = 1·3 | grammes |
| 1/8 | " | =0·008 | " | 24 | " | = 1·5 | " |
| 1/6 | " | =0·01 | " | 30 | " | = 2·0 | " |
| 1/5 | " | =0·013 | " | 40 | " | = 2·6 | " |
| 1/4 | " | =0·016 | " | 60 | " | = 4·0 | " |
| 1/3 | " | =0·02 | " | 90 | " | = 6·0 | " |
| 1/2 | " | =0·032 | " | 120 | " | = 8·0 | " |
| 3/4 | " | =0·05 | " | 1/2 | oz. (av.) | = 15·0 | " |
| 1 | " | =0·065 | " | 1 | " " | = 30·0 | " |
| 1½ | grains | =0·1 | " | | (*or nearer* | 28·35) | " |
| 2 | " | =0·13 | " | 1 | pound | = 453·59 | " |

## MEASURES.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ½ | minim | = 0·03 | Cc. | 40 | minims | = 2·4 | Cc. |
| 1 | " | = 0·06 | " | 50 | " | = 3·0 | " |
| 2 | minims | = 0·12 | " | 60 | " | = 3·5 | " |
| 3 | " | = 0·18 | " | 80 | " | = 4·7 | " |
| 4 | " | = 0·24 | " | 90 | " | = 5·3 | " |
| 5 | " | = 0·30 | " | 100 | " | = 6·0 | " |
| 6 | " | = 0·35 | " | 120 | " | = 7·0 | " |
| 7 | " | = 0·42 | " | 240 | " | = 15·0 | " |
| 8 | " | = 0·5 | " | 1 | fluid ounce | = 30·0 | " |
| 9 | " | = 0·54 | " | 2 | fluid ounces | = 60·0 | " |
| 10 | " | = 0·6 | " | 4 | " " | =115·0 | " |
| 12 | " | = 0·7 | " | 5 | " " | =140·0 | " |
| 15 | " | = 0·9 | " | 6 | " " | =170·0 | " |
| 17 | " | = 1·0 | " | 8 | " " | =230·0 | " |
| 20 | " | = 1·2 | " | 10 | " " | =280·0 | " |
| 25 | " | = 1·5 | " | 20 | " " | =568·0 | " |
| 30 | " | = 1·8 | " | 1 | gallon | = 4·546 | litre |

# INTRODUCTION.

Herein medicines are viewed from a pharmaceutical and medical aspect; references to their use, with the doses employed, are given in *précis*. The area of selection is limited by personal experience. Modern official drugs are still noticed, and older ones are introduced when unofficial preparations of them are in use, or their preparations have undergone alteration. In the Secondary List of drugs will be found those to which medical attention has been more or less directed, but which have not come into general use. The Index forms a copious Posological Table. The doses are based on personal experience, or are culled from the best authorities. The terms *Drachm* and *Ounce*, when applied to liquids, are understood to be the Fluid Drachm and Fluid Ounce respectively, as defined by the British Pharmacopœia. Except in some foreign formulæ where liquids are ordered to be weighed, when parts are referred to (solubilities included), it is to be understood that ounces and fluid ounces, grains and grain-measures, or grammes and cubic centimetres are to be employed. In regard to the formulæ for hypodermic injections and several others, as a minim is not equal to a grain-measure, and as hypodermic syringes and dispensing measures are graduated in minims, for practical purposes the use of 'parts' is generally avoided when referring to these small quantities. They are therefore ordered in grains and minims or ounces (*i.e.* fluid ounces); thus Injectio Morphinæ Acetatis Hypodermica contains 1 grain of Morphine Acetate in 6 minims. Exceptions to this rule are clearly indicated. Specific gravities and solubilities have been determined at 15·5° C. (60° F.).

Percentage solutions are sometimes mentioned, by which it is intended that 100 grain-measures of the finished solution shall contain *n* grains of the substance, or that 100 Cc. shall contain *n* Gm.; *e.g.* a 50 per cent. solution of Cocaine Hydrochloride will contain 50 grains in 100 grain-measures, and will dilute with an equal volume of liquid to form a 25 per cent. solution.

Liquids are in nearly all cases directed to be measured, but in a few instances, where it would tend to greater convenience and accuracy, *e.g.*, oils, glycerin, the strong mineral acids and oleic acid, the quantities are ordered to be weighed.

## ABBREVIATIONS.

When the reference is to a periodical, the number put first is the number of the volume; then follow the last two figures of the year, and the last number refers to the page.

Am.M.S.B.—American Medico-Surgical Bulletin.

Arzn.—Arzneimittel die im Deutschen Arzneibuch nicht enthalten sind.

B.—Bartholow, Treatise of Materia Medica and Therapeutics.

B. and C. D.—British and Colonial Druggist.

## ABBREVIATIONS—*continued.*

B.M.J.—British Medical Journal.

B.M.J.E.—British Medical Journal Epitome of Current Medical Literature.

B.P.C.—Formulary, 1901, of the British Pharmaceutical Conference, *v.p.* xxxi.

Br.—Braithwaite, W. & J., Retrospect of Medicine.

Brompton H.—Pharm. Brompton Hospital, 1899.

Brunton.—Text-Book of Pharmacology, Therapeutics, and Materia Medica, by T. Lauder Brunton, M.D.

B.S.H.—Pharmacopœia of the British Skin Hospital.

C.D.—Chemist and Druggist.

Chem. News.—Chemical News.

Codex.—Codex Medicamentarius, Pharmacopée Française, 1884.

Ed. M.J.—Edinburgh Medical Journal.

F. Ital.—Farmacopea d'Italia, 1892.

G.—The Essentials of Materia Medica and Therapeutics, by Sir A. B. Garrod, M.D., and N. J. C. Tirard, M.D., 11th Ed. 1884.

G.H.—Pharmacopœia of Guy's Hospital, 1899.

G.N.C.—Pharm. Gt. Northern Central Hospital, 1899.

I.C. Add.—Indian and Colonial Addendum (1900) to the British Pharmacopœia, 1898.

L.—The Lancet.

L.H.—Pharmacopœia of the London Hospital, 1894.

M.C.—Medical Chronicle, Manchester.

Mid. H.—Pharm. Middlesex Hospital, 1899.

M.P.C.—The Medical Press and Circular.

M.T.G.—The Medical Times and Gazette.

*Off.*—*Official*—in the British Pharmacopœia.

P. Austr.—Pharmacopœa Austriaca, vii., 1889.

P. Aus. Add.— „ „ „ 1900 Additamenta.

P. Dan.—Pharmacopoea Danica, 1893.

P.G. iv.—Pharmacopœa Germanica, editio iv., 1900.

P. Helv.—Pharmacopoea Helvetica, Ed. III., 1893.

P.J.—Pharmaceutical Journal.

P. Jap.—Pharmacopoea Japonica, editio altera, *i.e.* ii., 1891.

P.L.—Pharmacopœia Londinensis, 1851.

Pr.—The Practitioner.

R.—Handbook of Therapeutics, by Sydney Ringer, M.D., and Harrington Sainsbury, M.D., 13th edition.

R.O.H.—Pharmacopœia of the Royal London Ophthalmic Hospital.

St. Bart's. H.—Pharm. St. Bartholomew's Hospital, 1900.

St. George's H.—Pharm. St. George's Hospital, 1899.

St. John's Hosp.—Pharm. St. John's Hospital for Skin Diseases, 1900.

T.H.—Pharmacopœia of the Hospital for Diseases of the Throat, 5th ed. 1894.

Th. Gaz.—Therapeutic Gazette, Philadelphia.

Therap.—The Therapist.

U.C.H.—Pharm. of the University College Hospital, 1899.

U.S.—Pharmacopœia of the United States.

Vic. Park.—Pharm. City of London Hosp. (Chest).

Y.B.—The Year-Book of Treatment.

# ANALYSIS OF PRESCRIPTIONS.

*This Table, compiled in 1897 from the investigation of 25,500 recent prescriptions dispensed in Great Britain, Ireland, and the Colonies, gives the number of times the 121 preparations most frequently ordered were dispensed.*

| | |
|---|---|
| Tinct. Nucis Vom. | 2168 |
| Sp. Chloroformi | 2124 |
| Glycerinum. | 1698 |
| Sodii Bicarb. | 1619 |
| Syrup. Aurant. | 1612 |
| Quinin. Sulph. | 1309 |
| Sp. Ammon. Arom. | 1308 |
| Vin. Ipecac. | 1149 |
| Potass. Bromid. | 1002 |
| Sp. Æth. Nitros. | 984 |
| Aq. Menth. Pip. | 946 |
| Liq. Ammon. Acet. | 944 |
| Potass. Bicarb. | 944 |
| Acid. Nitro-Hyd. Dil. | 931 |
| Potass. Iodid. | 885 |
| Syrupus | 881 |
| Sodii Salicyl. | 849 |
| Hyd. Subchlor. | 837 |
| Syr. Tolut. | 826 |
| Acid. Boric. | 792 |
| Tinct. Camph. Co. | 720 |
| Liq. Strych. Hyd. | 708 |
| Magnes. Sulph. | 708 |
| Tinct. Card. Co. | 702 |
| Aq. Chlorof. | 684 |
| Ammon. Carb. | 661 |
| Tinct. Digital. | 625 |
| Bismuthi Subnit. | 618 |
| Liq. Arsenicalis | 601 |
| Potass. Chlor. | 598 |
| Syr. Zingib. | 584 |
| Tinct. Ferri Perch. | 561 |
| Ext. Belladon. | 518 |
| Acid. Sulph. Dil. | 488 |
| Ext. Nucis Vom. | 478 |
| Ammon. Bromid. | 443 |
| Mucilag. Acac. | 438 |
| Syr. Scillæ | 421 |
| inct. Aurant. | 420 |
| Ammon. Chlorid. | 411 |
| Inf. Gentian. Co. | 407 |
| Acid. Hydroch. Dil. | 402 |
| ,, Hydrocy. Dil. | 401 |
| Pil. Hydrarg. | 401 |
| Phenacetin | 400 |
| Tinct. Zingib. | 399 |
| Aq. Camph. | 397 |
| Tinct. Belladonnæ | 391 |
| Ext. Hyoscyam. | 390 |
| Inf. Calumbæ | 388 |
| Vaseline | 386 |
| Tinct. Hyoscy. | 378 |
| ,, Opii | 374 |
| Cocain. Hydroch. | 372 |
| Tinct. Gent. Co. | 372 |
| ,, Cinchon. Co. | 370 |
| Antipyrine | 369 |
| Liq. Morph. Hyd. | 342 |
| Potass. Citras. | 341 |
| Ext. Casc. Sag. Liq. | 340 |
| Syr. Limonis | 335 |
| Tinct. Calumb. | 320 |
| Aqua Rosæ | 316 |
| Zinci Sulph. | 316 |
| Syr. Fer. Quin. et Strych. Phosph. | 303 |
| Tinct. Scillæ | 301 |
| Fer. et Amm. Cit. | 289 |
| Bismuth. Carb. | 289 |
| Tinct. Chlorof. Co. | 287 |
| Aqua Cinnam. | 281 |
| Pil. Rhei Co. | 278 |
| Aqua Anethi | 276 |
| Ext. Gentianæ | 275 |
| Hydrarg. c. Cretâ | 269 |
| Chloral Hydras. | 266 |
| Acid. Phosph. Dil. | 261 |
| Lin. Belladon. | 261 |
| Potass. Nitras | 260 |
| Pil. Coloc. et Hyosc. | 256 |
| Ext. Glycyrrh. Liq. | 253 |
| Lanoline | 250 |
| Syr. Hypoph. Co. | 250 |
| Sacchar. Purif. | 249 |
| Infus. Quassiæ. | 244 |
| Pulv. Ipecac. Comp. | 239 |

| | | | |
|---|---|---|---|
| Euonymin | 238 | Podoph. Resina | 189 |
| Zinci Oxidum | 238 | Ferri Sulphas | 188 |
| Infus. Senegæ | 237 | Liq. Plumbi Subac. | 185 |
| Fer. et Quin. Cit. | 231 | Lin. Saponis | 183 |
| Tinct. Aconiti | 227 | Ipecacuanha | 182 |
| Ext. Ergot. Liq. | 225 | Tinct. Benz. Co. | 179 |
| Acid. Carbolic. | 221 | Oxymel Scillæ | 177 |
| Tinct. Capsici | 216 | Sulphonal | 175 |
| Sodii Sulphas | 211 | Syr. Ferri Iodid. | 170 |
| Liq. Bism. et Am. Cit. | 205 | Ext. Aloes | 168 |
| Sodii Bromid. | 204 | Mag. Carb. Pond. | 164 |
| Borax | 201 | Acid. Citric. | 159 |
| Salicinum | 201 | Tinct. Rhei | 157 |
| Spir. Vini Rect. | 200 | Ext. Cascara Sag. | 155 |
| Rhei Radix | 199 | Pil. Coloc. Co. | 155 |
| Tinct. Iodi | 192 | Aq. Anisi | 149 |
| ,, Lavand. Co. | 192 | Nepenthe | 146 |
| Liq. Hydrarg. Perchl. | 191 | Pepsin | 146 |

The above table forms a therapeutical reflex of British medical practice. Some of the most frequently used preparations are merely flavouring agents or *placebos*, but the list contains the *armentarium* of the medical practitioners of the day. It refers to the preparations of drugs, not to the crude drugs themselves, and therefore is not the exact record of the number of times the latter have been employed. It is the record of recent ordinary prescriptions of physicians, surgeons and general practitioners, registered the first time of dispensing only; it does not include the sale of articles by retail or supplied to medical practitioners, such as anæsthetics, antiseptics, hypodermic injections, and surgical dressings, nor does it embrace the preparations dispensed by the latter in their private practice.

THE

# PRINCIPAL CHANGES

IN THE

# BRITISH PHARMACOPŒIA

## Effected by the Revision of 1898, Compared with that of 1885.

The dual system of Weights and Measures, introducing the Metric System, has been referred to (p. xii.). The Index, like that of the Extra Pharmacopœia, forms an elaborate Posological Table. As regards *strength*, *dosage*, and *change* in *appearance*, the following are the most important:—

**Alcohol, Ethylic** (Ethyl Hydroxide).—Has 'five several degrees of dilution,' viz., Spiritus Rectificatus—*Anglicised* Alcohol (90 per cent.)—slightly stronger than formerly, 70 per cent., 60 per cent., 45 per cent. and 20 per cent. (p. 55).

**Proof Spirit.**—This name is abandoned and, as a rule Alcohol (90 per cent.) has replaced Rectified Spirit, and Alcohol (60 per cent.) Proof Spirit, where these were ordered in B.P. 1885.

**Spirits.**—The spirituous solutions of essential oils, formerly termed Essences (1 to 4) and Spirits (generally 1 to 49), are now collectively termed Spirits, and are of the strength of 1 in 10, except Spirit of Juniper (1 in 20).

**Tinctures.**—Alcohol of the most suitable degree of dilution is employed as the menstruum for each drug, and the strength of Tinctures has been so adjusted that they may be arranged in two classes in regard to dose; (1) *dose*, $\frac{1}{2}$ to 1 drachm, and (2) more potent tinctures, *dose*, 5 to 15 minims.

Standardisation is extended to Tincture of Belladonna as well as to the other preparations of this drug, all being made from a Liquid Extract. Standardisation is also applied to Liquid Extract of Ipecacuanha from which the Vinegar and Wine are prepared. Tinctures prepared by maceration are not now directed to have their product made up to a prescribed volume.

**Infusions.**—In most cases the time for preparation is shortened, and more are of the strength of 1 in 20.

**Concentrated Infusions and Decoctions.**—A class representing these commercial products has been introduced as *Liquores Concentrati.*

**Extracts.**—Four of these have been diluted with milk sugar to bring their range of dosage—$\frac{1}{4}$ to 1 grain—into uniformity. These are Belladonna (Alcoholic), Nux Vomica, Calabar Bean, and Strophanthus; the first two are standardised, the last is a whitish powder of which 1 part = 2 of seeds.

*Changes in Appearance of Preparations affecting Prescribers and Dispensers.*—Saffron is omitted from *Tinctura Opii Ammoniata, Tinctura Rhei, Pilula Aloes et Myrrhæ, Pulvis Cretæ Aromaticus* and its combination with Opium. The mixture of either of the last two preparations with water will not form the familiar yellow-coloured mixture as made by the old Aromatic Confection. *Tinctura Aurantii*, from fresh peel, being more alcoholic, forms a more opaque mixture with water; the same applies to Tincture of Quinine. The Tincture of dried Orange Peel is omitted.

*Changes in Nomenclature.*—Beeswax, White and Yellow, *vice* White and Yellow Wax. *Hydrobromidum* and Hydrobromide, *vice Hydrobromas* and Hydrobromate. *Hydrochloridum* and Hydrochloride, *vice Hydrochloras* and Hydrochlorate. Hydroxide, *vice* Hydrate. *Injectio Cocainæ Hypodermica, vice Liquor Cocainæ Hydrochloratis; Linimentum Camphoræ Ammoniatum, vice Linimentum Camphoræ Compositum: Liquor Iodi Fortis, vice Linimentum Iodi; Pilula Galbani Compositum, vice Pilula Asafœtidæ Composita.* Spirits, *vice* Essences. *Tinctura Rhei Composita, vice Tinctura Rhei. Tinctura Sennæ Composita, vice Tinctura Sennæ.* The word '*Viride*' has been added to the green Extracts of Belladonna and Henbane: and the word '*Fortis*' has replaced '*Fortior*' as applied to the solutions of Ammonia and Ferric Chloride. The English names of chemicals are changed for those generally accepted in chemical science, without expressing the genitive by 'of,'—*e.g.*, Quinine Sulphate replaces the term Sulphate of Quinine.

*Test Reagents and Processes.*—These are mostly inserted in groups in the Appendices, and the volumetric solutions are altered in accordance with the latest atomic weights of the elements.

*Changes in Dosage most affecting Prescribers.*—*Aqua Chloroformi*, *Tr. Aconiti* and *Tr. Strophanthi*, about half former strength; *Tr. Nucis Vomicæ*, *Tr. Podophylli*, and *Tr. Belladonnæ*, about double, and *Tr. Quassiæ* three times, their former strength; *Tr. Belladonnæ* has a straw colour in place of brownish-green as formerly. *Injectio Apomorphinæ Hypodermica* and *Injectio Morphinæ Hypodermica* now contain about half their former quantity of active ingredient, and the quantity of Morphine in the Suppository of Morphine has been decreased one-half; but *Tinctura Chloroformi et Morphinæ Composita*, *vice* *Tr. Chloroformi et Morphinæ*, has the Morphine increased four times, so that it now contains 1 per cent. of Morphine salt like the official Liquors. *Pilula Phosphori* is also increased to about double former strength. In several instances different doses are stated when intended for single or repeated administration.

# SYNOPSIS OF THE INDIAN AND COLONIAL ADDENDUM (1900) TO THE BRITISH PHARMACOPŒIA 1898. (*Compiled from Abstract in P. J.* ii./00, 660, 701.)

ABBREVIATIONS.—I., *India*; A.C., *African Colonies*; Au.C., *Australasian Colonies*; E.C., *Eastern Colonies*; M.C., *Mediterranean Colonies*; N.A.C., *North American Colonies*; W.I.C., *West Indian Colonies*; P.I., *Pharmacopœia of India*, 1868; E.P.I., D *Economic Products of India*, 1889-96; Pg.I., *Pharmacographia Indica*, 1890-93.

| Drug or Preparation. | Dose. | Source. | Description, part used, or menstruum and strength. | Properties and References. |
|---|---|---|---|---|
| **Acaciæ Cortex,** (Black Wattle Bark from *A. decurrens*) | | *A. arabica* and *decurrens*. I., Au.C., E.C. | Dried bark kept for one year... | Astringent=Oak bark.—E.P.I. i. 21; Pg.I. i. 550, 556. |
| Decoctum | ½ to 2 oz. | | Water, 1 in 16 | |
| **Acalypha** | | *A. indica*. | Fresh and dried herb | Expectorant, emetic=Senega or Broom.—P.I. 205; E.P.I. i. 62. |
| Ext. Liquidum | 5 to 30 m. | I., E.C. | Alcohol 90 %, 1=1 | |
| Succus | 1 to 4 dr. | | Fresh juice, ¼th alcohol 90 | |
| **Adhatoda** | | *A. Vasica*. | Fresh and dried leaves | Expectorant and antispasmodic, contains Vasicine, a bactericide. P.I. 162; E.P.I. i. 109; P.J. 1888, 841; Pg.I. iii. 291; L. ii./oo,327. |
| Ext. Liquidum | 20 to 60 m. | I., E.C. | Dried leaves, alcohol 60 %, 1=1 | |
| Succus | 1 to 4 dr. | | Fresh juice | |
| Tinctura | 30 to 60 m. | | Dried leaves, percol. alc. 60 | |
| **Agropyrum,** Triticum or Couch Grass | | *A. repens* (*Triticum repens*). | Dried rhizome | Diuretic.—Pg.I. iii. 50. p. 462. |
| Decoctum | ½ to 2 oz. | Au.C., E.C., N.A.C. | Water, 1 in 20 | |
| Ext. Liquidum | 1 to 2 dr. | | Boiling water, ¼ alc. 90 1=1 | |
| **Alstonia,** (Dita Bark from *A. scholaris*) | | *A. scholaris* and *A. constricta*. | Bark | Tonic, in dysentery. P.I. 137; E.P.I. i. 197; Pg.I. ii. 386. pp. 475, 476. |
| Infusum | ½ to 1 oz. | I., Au.C., E.C. | Boiling water, 30 minutes, 1 in 20 | Dose of Tr. A. Constricta is less, 5 to 20 m.—P.J. i./01, 362. |
| Tinctura | ½ to 1 dr. | | Alcohol 60 , macerate 1 in 8 | |
| **Andrographis** (Creyat, Kariyat or Kreat) | | *A. paniculata*. I., E.C. | Dried plant | Tonic=Chiretta. P.I. 161, 459; E.P.I. i. 240; Pg.I. iii. 46. pp. 476, 480. |
| Infusum | ½ to 1 oz. | | Boiling water, 15 minutes, 1 in 20 | |
| Liquor Concentratus | ½ to 1 dr. | | Alcohol 20 , 1 in 2. | |
| Tinctura | ½ to 1 dr | | Alcohol 60 %, percolate 1 in 10 | |

| | | | | |
|---|---|---|---|---|
| Tinctura | ½ to 1 dr. | | Alcohol 70 %, percolate 1 in 5 | i. 315; Pg. I. iii. 158. |
| **Arnicæ Flores** | | *A. montana.* N.A.C. | Dried flower heads | Acrid stimulant = Arnica rhizome. |
| Tinctura | ½ to 1 dr. | | Alcohol 45 %, percolate 1 in 10 | |
| **Aurantii Cortex Indicus** | | *Citrus Aurantium* I., E.C. | Fresh and dried peel of fruit | Tonic, stomachic.—Pg. I. i. 269. p. 96. |
| **Azadirachta Indica,** NEEM, OR MARGOSA BARK | | *Melia Azadirachta.* I., E.C. | Bark of stem | Tonic, antiperiodic = Quassia.—P.I. 55, 443; E.P.I. v. 214; Pg. I. i. 322, 547. |
| Infusum | ½ to 1 oz. | | Cold water, 15 minutes, 1 in 100 | p. 477. |
| Tinctura | ½ to 1 dr. | | Alcohol 45 %, macerlate 1 in 10 | |
| **Belæ Fructus,** BAEL FRUIT | | *Ægle Marmelos.* I., E.C. | Fresh half-ripe fruit | Mild astringent.—P.I. 46; E.P.I., i. 120; Pg. I. i. 277, 547. Fresh fruit useful in dysentery.-B. M. J. i./01, 1901. |
| Ext. Liquidum | 1 to 2 dr. | | Cold water, ¼th alc. 90 %, 1 = 1 | |
| **Berberis** | | *B. aristata.* I., E.C. | Stem | Tonic. Extract known as 'Rusot' in India. P.I. 12; E.P.I. i., 412; Pg. I. i. 64. |
| Liquor Concentratus | ½ to 1 dr. | | Alcohol 20 %, 1 in 2 | |
| Tinctura | ½ to 1 dr. | | Alcohol 60 %, percolate 1 in 10 | p. 277. |
| **Betel** | | *Piper Betle.* I., E.C. | Leaves | Stimulant, narcotic, masticatory.—P.I. 208; E.P.I. vi. pt. I, 254; Pg. I. iii. 183. |
| **Buteæ Gummi,** BUTEA GUM, BENGAL KINO. | | *B. frondosa.* I., E.C. | Inspissated juice from stem | Astringent.—P.I. 73. |
| **Buteæ Semina** | | *B. frondosa.* I., E.C. | Seeds | Contain Moodooga Oil. Anthelmintic like Santonin.—P.I. 79, 446; E.P.I. i. 550; Pg. I. i. 454. |
| Pulvis | 10 to 20 gr. | | Dried kernels freed from testæ | |
| **Calotropis** MUDAR | 3 to 10 gr.<br>Emetic: 30 to 60 gr. | *C. procera* and *C. gigantea.* I., E.C. | Root Bark freed from outer layer | Tonic, emetic.—P.I. 141, 457; E.P.I. ii. 43; Pg. I. ii. 428. |
| Tinctura | ½ to 1 dr. | | Alcohol 60 %, percolate 1 in 10 | |
| **Cambogia Indica** | ½ to 2 gr. | *Garcinia Morella.* I., E.C. | Gum-resin | Cathartic = Siam Gamboge.—P.I. 30 E.P.I. iii. 476; Pg. I. i. 168. |
| **Catechu Nigrum** BLACK CATECHU | 5 to 15 gr. | *Acacia Catechu.* I., E.C., N.A.C. | 'Cutch.' Extract of wood | Astringent = Pale Catechu, 'Gambier'—P.I. 62; E.P.I. i. 42; Pg. I. i. 552, 557 |

| Drug or Preparation | Dose. | Source. | Description, part used, or menstruum and strength. | Properties and References. |
|---|---|---|---|---|
| **Cissampelos** | | *C. Pareira.* | Root | Tonic, diuretic = Pareira root.—P.I. 7; E.P.I. ii. 328; Pg.I. i. 53. |
| Decoctum | ½ to 2 oz. | I., E.C. | Water 1 in 8 | |
| Ext. Liquidum | ½ to 2 dr. | | Boiling water, percolate, concentrate. ¼th alcohol 90 , 1=1 | |
| **Coscinium** | | *C. fenestratum.* | Stem | Tonic = Calumba.—P.I. 10; E.P.I. ii., 578. |
| Infusum | ½ to 1 oz. | I., E.C. | Boiling water, 30 minutes, in 20 | |
| Liquor Concentratus | ½ to 1 dr. | | Cold water and alc. 90 , 1 in 2 | |
| Tinctura | ½ to 1 dr. | | Alcohol 60 , macerate 1 in 10 | |
| **Cucurbitæ Semina Præparatæ**, MELON PUMPKIN SEEDS | 3 to 4 oz. bruised with water or milk | *C. maxima.* M.C. | Seeds deprived of testa and tegmen | Anthelmintic.—P.I. 97; E.P.I. ii. 639. |
| **Daturæ Folia** | | *D. fastuosa v. alba* and *D. Metel.* I., E.C., W.I.C. | Leaves | Anodyne = Belladonna and Stramonium. E.P.I. iii. 34, 40. |
| **Daturæ Semina** | | *D. fastuosa var. alba.* I., E.C. | Seeds | Diuretic and narcotic = Stramonium seeds.—P.I. 175, 480; E.P.I. iii. 34; Pg. I. ii. 585. |
| **Embelia** | 1 to 4 dr. | *E. Ribes* and *E. robusta*, I., E.C. | Fruit, dried | Anthelmintic, like Kousso or Male Fern. E.P.I. iii., 242; P.J. 1887, 171; 1888, 601, 305; Pg.I. ii. 349. p. 257. |
| **Extractum Glycyrrhizæ Spirituosum** | ½ to 1 dr. | | Extract of Liquorice 2, Alcohol 90 1, Water *q.s.* to 4 | Keeps better than B.P. |
| **Gossypii Radicis Cortex** | | *G. herbaceum.* I., E.C., N.A.C., W.I.C. | Root bark | Emmenagogue = Ergot. Pg.I. i. 221. |
| Decoctum | ½ to 2 oz. | | Water, 1 in 5 | p. 259. |
| Ext. Liquidum | ½ to 1 dr. | | Alcohol 90 , Glycerin ¼th, 1=1 | |
| **Grindelia** | | *G. squarrosa* and *G. robusta.* A.C., N.A.C. | Dried leaves and flowering tops. | Sedative and antispasmodic. p. 260. |
| Ext. Liquidum | 10 to 20 m. | | Alc. 90 1, Water *q.s.* to 3, with Sodium Bicarb. 1=1 | |
| **Gummi Indicum** (GHÁTI or GHATTI GUM) | | *Anogeissus latifolia.* I., E.C. | Gummy exudation from wood | Demulcent. E.P.I. i. 257; Pg.I. i. 553; ii. 12. |
| Mucilago | *ad lib.* | | 1 to 3 of water | |

| | | | | |
|---|---|---|---|---|
| | | *striata.* A.C. | | |
| **ygrophila** | | *H. spinosa.* | Dried herb | Demulcent and diuretic.—P.I. 162; E.P.I. iii. 316; Pg.I. iii. 36. |
| Decoctum | ½ to 2 oz. | I., E.C. | Water, 1 in 10 | |
| **sphaghula** | 50 to 150 gr. | *Plantago ovata.* | Seeds | Demulcent = Linseed or barley.— P.I. 182; Pg.I. iii. 126. |
| Decoctum | ½ to 2 oz. | I., E.C. | Water, 1 in 73 | |
| **Kaladana** | 30 to 50 gr. | *Ipomœa hederaceа.* I., E.C. | Seeds | Purgative and Anthelmintic = Jalap.—P.I. 155, 459; P.I. iv. 486; Pg.I. ii. 530. |
| Pharbitis Nil | | | | |
| Pulvis Compositus | 20 to 60 gr. | | Kaladana 5, Acid Potassium Tartrate 9, Ginger 1 | = Pulvis Jalapæ Compositus. p. 483. |
| Tinctura | ½ to 1 dr. | | Alcohol 70 , percolate 1 in 5 | |
| **Kaladanæ Resina** | 2 to 8 gr. | *Ipomœa hederaceа.* I., E.C. | Prepared as Resina Jalapæ. B.P. | Equivalent of Jalap Resin, insoluble in ether. p. 483. |
| Pharbitisin | | | | |
| **Kavæ Rhizoma** | | *Piper methysticum.* Au.C. | | |
| Ext. Liquidum | 30 to 60 m. | | Decorticated and dried rhizome<br>Semi-alcoholic, 1 to 1 | Stimulant diuretic. p. 481. |
| **Kino Eucalypti** | 5 to 20 gr. | *Eucalyptus var. sp.* | Exudation from stem | Astringent = Kino. p. 233. |
| Botany Bay Kino | | | | |
| **Mylabris** | | *M. phalerata* and *sp.* I., A.C., E.C. | Dried beetle | Vesicant = Cantharidis, contains Cantharidin 1 or 2 ,.—P.I. 277, 467; E.P.I., iv. 209. p. 123. |
| Acetum Mylabridis | | | Mylabris *vice* Cantharides in B.P. 1898, 1 in 10 | = Acetum Cantharides. |
| Emplastrum Mylabridis | | | Mylabris *vice* Cantharides in B.P. in 1898, about 1 in 3 | = Emplastrum Cantharidis. |
| Emplastrum Mylabridis Calefaciens | | | Mylabris *vice* Cantharides in B.P. 1898, about 1 in 25 | = Emplastrum Calefaciens. |
| Liquor Epispasticus Mylabridis | | | Mylabris *vice* Cantharides in B.P. 1898, 1 in 2 | = Liquor Epispasticus. |
| Unguentum Mylabridis | | | Mylabris *vice* Cantharides in B.P. 1898, 1 in 10 | = Unguentum Cantharidis. |
| **Myrobalanum** (Black or) Chebulic Myrobalans | ½ to 1 dr. | *Terminalia Chebula.* I., E.C. | Dried immature fruits | Purgative, astringent = Galls.— P.I. 88; E.P.I. vi. pt. 4, 33; Pg. I. ii. 1. |

| Drug or Preparation. | Dose. | Source. | Description, part used, or menstruum and strength. | Properties and References. |
|---|---|---|---|---|
| Unguentum | | | Benzoated Lard, 1 to 4 | = Gall Ointment. p. 225 |
| Unguentum cum Opio | | | Above with Opium 7·5 % | = Gall and Opium Ointment. |
| **Oleum Ajowan**<br>PTYCHOTIS OIL | ½ to 3 m. | *Carum copticum.* I., E.C. | Distilled from fruit | Aromatic, carminative, contains Thymol. - P.I. 99; Pg.I. ii. 116. p. 457. |
| **Oleum Arachis**<br>EARTH-NUT, GROUND-NUT or PEA-NUT OIL | | *A. hypogæa.* I., A.C., Au. C., E.C. | Expressed from seeds | = Olive Oil — P.I. 74, 446; E.P.I. i. 286; Pg.I. i. 494. |
| **Oleum Gaultheriæ**<br>OIL OF WINTERGREEN | 3 to 10 m. | *G. procumbens* (*leaves*) *or Betula lenta* (*bark*). N.A.C. | Distilled Oil | Contains Methyl Salicylate. p. 31 |
| **Oleum Graminis Citrati**<br>INDIAN OIL OF VERBENA or LEMON GRASS | | *Andropogon citratus.* I., E.C., W.I.C. | Distilled Oil from entire herb | Carminative, with agreeable odour, contains Citral, Citronellal, &c.— P.I. 256; E.P.I. i. 243; Pg.I iii. 564. |
| **Oleum Cynocardiæ**<br>CHAULMOOGRA OIL | 5 to 60 m. | *G. odorata* or *G. Prainii.* I., E.C. | Expressed from seeds | Alterative and emetic; used for psoriasis eczema, and leprosy. P.I., 26; E.P.I iv. 193; Pg.I. i. 142. p. 356 |
| Unguentum | | | Paraffin 4, Soft Paraffin 5, Oil 1 | |
| **Oleum Sesami**<br>SESAME OIL | | *S. indicum.* I., A.C., E.C., N.A.C. | Expressed from seeds | Demulcent. Olive Oil.- P.I. 150; E.P.I. vi. pt. 2, 507; Pg.I. iii., 26. p. 109 |
| **Oliveri Cortex** OLIVER or BLACK SASSAFRAS BARK | | *Cinnamomum Oliveri.* Au.C. | Dried bark | Aromatic, yields an oil resembling Sassafras Oil. - P.J. 11, 99, 165. |
| Tinctura | ½ to 1 dr. | | Alcohol 60 , percolate 1 in 10 | |
| **Picrorhiza** | 10 to 50 gr. | *P. Kurroa.* I., E.C. | Dried rhizome | Tonic, antiperiodic, aperient. P.I. 160; E.P.I., vi. pt. i, 229; Pg.I. iii. 10. |
| Ext. Liquidum | 20 to 60 m. | | Alcohol 60 , percolate 1 in 1 | |
| Tinctura | ½ to 1 dr. | | Alcohol 45 , macerate 1 in 8 | |
| **Podophylli Indici Rhizoma** INDIAN PODOPHYLLUM RHIZOME | | *P. Emodi.* I., E.C. | Dried rhizome and roots | Cholagogue cathartic. P.I. 12; E.P.I. vi. pt. i, 301; Pg.I. i. 69. p. 403 |
| Resina P. Indici | ¼ to 1 gr. | | Indian Rhizome by B. P. process | Rich in Podophyllotoxin. |
| Tinctura P. Indici | 5 to 15 m. | | Alcohol 90 . 1 gr. Resin in 30 m. | |

| | | | | |
|---|---|---|---|---|
| **Sappan** ...... | | pan. I., E.C. | Heart wood ...... | ii. 11; Pg. I. i., 500. |
| Decoctum | ½ to 2 oz. | | Water 1 in 20, with Cinnamon ·16 | Decoctum Hæmatoxyli. |
| **Tinospora,** (GULANCHA) ...... | | *T. cordifolia.* I., E.C. | Stem collected in hot season .. | Tonic, contains Berberine – Calumba. P.I. 9, 435; E.P.I., vi. pt. **4,** 64; Pg.I. i. 51. |
| Infusum | ½ to 1 oz. | | Cold water, 30 minutes 1 in 10 | = Infusum Calumbæ. |
| Liquor Concentratus | ½ to 1 dr. | | Treated as Calumba 1 in 2 .... | = Liquor Calumbæ Concentratus. |
| Tinctura | ½ to 1 dr. | | Alcohol 60 , macerate 1 in 5 | = Tinctura Calumbæ. |
| **Tinctura Jalapæ Composita** | ½ to 1 dr. | I., E.C., N.A.C. | Jalap 8, Scammony 2, Turpeth 1, Alcohol 60 ,percol. to 100 | Purgative. p. 313 |
| **Toddalia** ...... | | *T. aculeata* I., E.C | Root bark ...... | Aromatic tonic = Cusparia.—P.I. 47, 442; E.P.I. vi. pt. 4, 67; Pg.I. i. 260. |
| Infusum | 1 to 2 oz. | | Boiling water, 15 minutes 1 in 10 | = Infusum Cuspariæ. |
| Liquor Concentratus | ½ to 1 dr. | | Alcohol 20 , percolate 1 in 2 | |
| **Turpethum** ...... TURPETH (or TURBITH ROOT) | 5 to 20 gr. | *Ipomæa Turpethum.* I., E.C., N.A.C. | Dried root and stem ...... | Purgative = Jalap. — P.I. 156; E.P.I. iv. 493; Pg.I. ii., 527. |
| **Tylophoræ Folia** ...... | ¾ to 2 gr.<br>Emetic:<br>15 to 30 gr. | *T. asthmatica* I., E.C. | Dried leaves...... | Expectorant, emetic – Ipecacuanha. P.I. 142, 458; Pg.I. ii., 437. |
| **Urginea** ...... INDIAN SQUILL | | *U. indica* and *Scilla indica,* I., E.C. | Younger bulbs, soon after flowering | Expectorant, stimulant, diuretic = Squill. P.I. 241; E.P.I. vi. pt. 4, 214; Pg.I. iii., 476. |
| **Acetum** | 10 to 30 m. | | Diluted Acetic Acid, macerate 1 in 8 | = Acetum Scillæ. |
| **Pil. Ipec. cum Urginea** | 4 to 8 gr. | Contains 5 of opium. | Urginea, dried *vice* Squill in B.P. preparation | = Pilula Ipecacuanha cum Scilla |
| **Pil. Urgineæ Comp.** | 4 to 8 gr. | | Urginea, dried *vice* Squill in B.P. preparation | = Pilula Ipecacuanhæ Composita |
| **Oxymel Urgineæ** ...... | ½ to 1 dr. | | Urginea 5, Acetic Acid 5, Water 16, Honey q.s. ...... | = Oxymel Scillæ. |

| Drug or Preparation. | Dose. | Source. | Description, part used, or menstruum and strength. | Properties and References. |
|---|---|---|---|---|
| Syrupus | ½ to 1 dr. | | Vinegar of Urginea 1, Sugar 3S | = Syrupus Scillæ. |
| Tinctura | 5 to 15 m. | | Alcohol 60 %, macerate 1 in 5 | = Tinctura Scillæ. |
| **Valerianæ Indicæ Rhizoma** | ........................ | *V. Wallichii.* I., E.C. | Dried rhizome and rootlets ...... | Stimulant, antispasmodic = Valerian.—P.I.120; E.P.I.vi.pt.4,219; Pg.I.ii.238. |
| Tinctura Ammoniata | ½ to 1 dr. | | As Tr. Valerianæ Ammon. ...... | B.P. Tinctura Valerianæ Ammoniata. |
| **Viburnum,** Black Haw | ........................ | *V. prunifolium.* | Dried bark ........................... | Antispasmodic, diuretic, nervine tonic. |
| Ext. Liquidum | 1 to 2 dr. | I., E.C., N.A.C. | Alcohol 70 %, 1 = 1 ............... | Stillé and Maisch's Disp. |

## ALTERNATIVE PREPARATIONS

*Sanctioned by the Medical Council*

FOR USE IN INDIA AND THE COLONIES.

**Adeps Induratus.** In hot climates Lard may be employed deprived of a portion of its oil by pressure.

**Aquæ Olei Anethi, Anisi, Carui, Cinnamomi, Fœniculi, Menthæ Piperitæ, Menthæ Viridis, Pimentæ.**—Each of these waters may be made by triturating the corresponding Oil with twice its weight of Calcium Phosphate and 500 times its volume of Distilled Water, and filtering the mixture. In hot climates these may replace the corresponding B.P. *Aquæ*.

**Emplastra.**—In the Tropics more or less Hard Soap, Indurated Lard, or Yellow Bees-wax may be used in preparing the Plasters of the Pharmacopœia or Addendum where otherwise they would be too soft for convenient use; but the official proportion of the active ingredient must in all cases be maintained.

**Extracta Liquida.**—Any Liquid Extract liable to ferment in the Tropics, defined in the text of the Pharmacopœia or Addendum containing less than one-fourth of its weight of Alcohol (90 per cent.), may have this increased to one-fourth of the weight of the Extract.

**Limonis Cortex Siccatus.**—In the tropics dried Lemon Peel may replace fresh Lemon Peel where this cannot be obtained.

**Suppositoria.**—More or less White Bees-wax may be used in place of an equivalent amount of Oil of Theobroma, when otherwise they would be too soft for convenient use in the Tropics.

**Syrupus Rhœados.**—The quantity of Alcohol may be increased or doubled, replacing an equivalent quantity of water.

**Unguenta.**—In the Tropics these may be made harder or softer according to the needs of the climate, but the official proportion of the active ingredient must in all cases be maintained.

## SYNOPSIS of the FORMULARY 1901, of the BRITISH PHARMACEUTICAL CONFERENCE.

| Name. | Strength. | Dose. | Page |
|---|---|---|---|
| Acid. Hydrocyanic. (Scheele) ... | 4 % ............... | 1 to 3 m. | |
| Acid. Hydrofluoricum Dilutum | 0·2 % ............ | 5 to 20 m. | 20 |
| Acidum Hypophosphorosum ... | 30 ............... | 2 to 5 m. | 382 |
| Caffeinæ Hydrobromidum Eff. | 4 ............... | 1 to 2 dr. | 115 |
| Chloral Camphoratum ............ | Equal weights | | 137 |
| Chloroformum Aconiti............ | 2 in 3 ............ | | 46 |
| Chloroformum Belladonnæ ...... | 2 in 3 ............ | | 99 |
| Chloroformum Camphoratum | Camp. 2 with 1 | | 148 |
| Collodium Belladonnæ ............ | ½ % of alkaloids | | 99 |
| Collodium Stypticum ........... | Tannin 1 to 5 | | 199 |
| Elixir Aletridis ...................... | 1 in 4 ......... | ½ to 1 dr. | 475 |
| Elixir Glusidi ......................... | 3 gr. in 1 dr. ... | 5 to 20 m. | 425 |
| Elixir Guaranæ ................. ... | 1 in 5 ...... ...... | ½ to 2 dr. | 261 |
| Elixir Phosphori........... ........ | $\frac{1}{100}$ gr. in 1 dr. | 15 to 60 m | 378 |
| Elixir Rhei ............................ | 1 in 4 ............ | 1 to 3 dr. | 222 |
| Elixir Sennæ ... ... .............. | 2 in 3 ............ | 1 to 3 dr. | 223 |
| Emplast. Belladonnæ Viride ... | ¼ % of alkaloids | | 100 |
| Emulsio Olei Morrhuæ ............ | 1 in 2 ............ | 2 to 8 dr. | 357 |
| Emuls. Petrolei cum Hypophosph | 1 in 3 ............ | 1 to 4 dr. | 372 |
| Extractum Aletridis Liquidum | 1 in 1 ........... | 5 to 15 m. | 475 |
| Extractum Belladonnæ Fol. Alc. | ... ..... ......... | $\frac{1}{16}$ to ¼ gr. | 100 |
| Ext. Cascaræ Sag. Liq. Insipid. | 1 in 1 ............ | ½ to 2 dr. | 134 |
| Extractum Condurango Liquid. | 1 in 1 ............ | 10 to 60 m | 200 |
| Extractum Conii Liquidum ... | 1 % alk. salts... | 5 to 15 m | 201 |
| Extractum Damianæ Liquidum | 1 in 1 ............ | 30 to 60 m | 215 |
| Extractum Eucalypti Gum. Liq. | 1 in 4 ............ | 30 to 60 m | 233 |
| Extractum Fuci Vesiculosi ...... | Alc. 45 used | 3 to 10 gr. | 249 |
| Extractum Fuci Vesiculosi Liq. | 1 of Ext. in 5 | 1 to 2 dr. | 249 |
| Extractum Hæmatoxyli Liq. ... | 1 in 1 ............ | ½ to 2 dr. | 261 |
| Extractum Kolæ Liquidum .. | 1 in 1 ............ | 10 to 20 m | 114 |
| Extractum Malti .................. | Starch tested | 1 to 4 dr. | 322 |
| Ext. Malti cum Ol. Morrhuæ... | 15 % of Oil...... | 1 to 4 dr. | 322 |
| Extractum Sennæ Legum. Liq. | 1 in 1, Sp. Rect. 6 and Water 12 | 1 dr. | 224 |
| Gelatinum Zinci........................ | About 1 in 10 | | 471 |
| Glycerinum Belladonnæ ........ | Green Ext. 1 in 2 | | 101 |
| Hydrastinum ... ...... ......... | Alc. 60 used | ½ to 2 gr. | 276 |
| Inf. Digitalis Concentratum ... | 1 in 20 ......... | 15 to 30 m | 217 |
| Inf. Gentianæ Comp. Concent. | Gentian 1 in 20 | ½ to 1 dr. | 96 |
| Injectio Curare Hypodermica | 1 in 12 ......... | 1 to 6 m. | 214 |
| ridinum ...... . ............ . | Alc. 60 used | 1 to 3 gr. | 306 |
| Linimentum Opii Ammoniatum | Tr. Opii 3 in 10 | | 362 |
| Liquor Bismuthi Concentratum | Subnit. 7 in 50 | 15 to 30 m | 103 |
| Liquor Bromo-Chloral Comp. | Chloral Hyd 10 gr. in 1 dr. | ½ to 2 dr. | 138 |
| Liq. Ferri Hypophosph. Fort | 10 gr. in 1 oz | 10 to 30 m | 383 |
| Liq. Hypophosphitum Comp. | ...................... | ½ to 2 dr. | 384 |
| Mistura Bismuthi Composita ... | Morph. $\frac{1}{20}$ gr. in 1 dr. ...... | 20 to 30 m | 103 |

## FORMULARY—*continued.*

| Name. | Strength. | Dose. | Page |
|---|---|---|---|
| Phenacetinum cum Caffeina Eff. | Phenacetin 5<br>Caffeine $2\frac{1}{2}$ | 1 to 2 dr. | 172 |
| Phenazonum Effervescens ...... | Antipyrine 8 | 1 to 2 dr. | 173 |
| Pulvis Acetanilidi Comp.......... | Acetanilide 70% | 3 to 5 gr. | 161 |
| Pulv. Salis Carolini Fact. Eff. | .................. | 1 to 2 dr. | 437 |
| Succus Digitalis .................... | 25% Alcohol... | 5 to 10 m. | 217 |
| Syrupus Acidi Hydriodici ...... | Acid 1% ........ | 20 to 60 m | 303 |
| Syr. Apomorph. Hydrochlor.... | 1 gr. in 4 oz.... | $\frac{1}{2}$ to 1 dr. | 77 |
| Syrupus Butyl Chloral........... | 2 gr. in 1 dr.... | 1 to 4 dr. | 112 |
| Syrupus Calcii Hypophosph. ... | 1 gr. in 1 dr.... | 1 to 4 dr. | 383 |
| Syrupus Ferri Bromidi ... .... | $4\frac{1}{2}$ gr. in 1 dr. | $\frac{1}{2}$ to 1 dr. | 237 |
| Syrupus Fer. Brom. cum Quin. | Ferr. Brom.<br>4 gr. in 1 dr. | $\frac{1}{2}$ to 1 dr. | 238 |
| Syrupus Ferri Bromidi cum Quinina et Strychnina . ..... | Quin. Ac. Hybr. 1 gr., Strych. [illegible] gr. in 1 dr. | $\frac{1}{2}$ to 1 dr. | 238 |
| Syrupus Ferri Hypophosph. ... | 1 gr. in 1 dr.... | $\frac{1}{2}$ to 2 dr | 384 |
| Syrupus Ferri Phosph. Comp. | Ferrous Phos.<br>$\frac{1}{2}$ gr. in 1 dr. | $\frac{1}{2}$ to 2 dr. | 245 |
| Syrupus Glycerophosph. Comp. | .... .......... | 1 to 2 dr. | 25 |
| Syrupus Hypophosphit. Comp. | Fer. Marg. and<br>Pot. Hyp. $\frac{1}{4}$ gr.<br>Calc. ,, $\frac{1}{2}$ gr.<br>Quin. ,, [illegible] gr.<br>Strych ,, [illegible] gr<br>in 1 dr. | $\frac{1}{2}$ to 2 dr. | 385 |
| Syrupus Ipecacuanhæ Acetic.... | .................... | $\frac{1}{4}$ to 2 dr | 305 |
| Syrupus Picis Liquidæ ........... | 3 in 40... ....... | 1 to 2 dr. | 401 |
| Syrupus Sodii Hypophosphit... | 1 gr. in 1 dr... | 1 to 4 dr. | 384 |
| Tinctura Antiperiodica............ | Quin. Suph. 2 | 1 to 1 dr. | 418 |
| Tinctura Benzoini Simplex ...... | 1 in 10 Alc. 90 | | 64 |
| Tinctura Bryoniæ .................. | 1 in 10 ........ | 1 to 10 m. | 111 |
| Tinctura Calendulæ Florum ... | 1 in 5 Alc. 60 | 5 to 20 m. | 122 |
| Tinctura Capsici Fortior ......... | 1 in 3 Alc. 90 | 1 to 3 m. | 130 |
| Tinctura Carminativa ........... | Alcohol 90%... | 2 to 10 m. | 252 |
| Tinctura Chloroformi Comp.... | 1 in 10............ | 5 to 60 m | 149 |
| Tinctura Convallariæ .... .... | 1 in 8 Alc. 60 | 5 to 20 m. | 202 |
| Tinctura Coto ......................... | 1 in 10 Alc. 90 | 10 to 30 m | 203 |
| Tinctura Eucalypti ............ | 1 in 5 Alc. 90 | 15 to 120 m | 232 |
| Tinctura Euonymi ................... | 1 in 5 Alc. 80 | 10 to 40 m | 231 |
| Tinctura Euphorbiæ Piluliferæ | 1 in 5 Alc. 60 | 10 to 30 m | 235 |
| Tinctura Guaiaci .................... | 1 in 5 Alc. 90 | $\frac{1}{2}$ to 1 dr. | 529 |
| Tinctura Iodi Decolorata....... | ....... . | | 302 |
| Tinctura Lobeliæ .................. | 1 in 8 Alc. 60 | 10 to 30 m | |
| Tinctura Phosphori Comp. ...... | [illegible] gr. in. 1 dr. | 3 to 12 m. | 381 |
| Tinctura Physostigmatis ......... | 1 in 5 Alc. 90 | 5 to 15 m. | 386 |
| Tinctura Pulsatillæ ... ... ...... | 1 in 10 Alc. 60 | 1 to 5 m. | 408 |
| Tinctura Valerianæ ............... | 1 in 8 Alc. 60 | 1 to 2 dr. | |
| Tinctura Veratri Viridis ......... | 1 in 5 Alc. 90 | 5 to 15 m. | 467 |
| Tinctura Zingiberis Fortior ... | 1 in 2 Alc. 90% | 5 to 20 m. | 252 |
| Unguentum Hydrargyri Mitius | 1 to Lard 2...... | | 264 |
| Unguent. Oleo-Resinæ Capsici | 2 in 11 ........ | | 131 |
| Vinum Aurantii Detannatum... | (Gelatin 1 in 640) | | 96 |
| Vinum Pepsini ..................... | 2 gr. in 1 dr.... | 1 to 2 dr. | 375 |
| Vinum Xericum Detannatum... | Gelatin 1 in 640 | | |

# ABRUS.

**Jequirity Seeds.** — *Syn.* PRAYER BEADS; JUMBLE BEADS; GUMCHI (*Hindi*); INDIAN LIQUORICE.

These seeds, the produce of *Abrus precatorius*, of a scarlet colour, with a black patch round the hilum, hard and difficult to powder, are innocuous when eaten, but poisonous when placed in wounds or under the skin of animals. Two proteids, **Paraglobulin** and **α-Phytalbuminose**, have been isolated from Abrus seeds, and are closely allied to those contained in papaw juice; like **Ricin**, allied to serpents' venom, they are poisonous to wounds, but not when swallowed.—Deutsche Med. Woch., 1891, 976, 1218. The so-called **Abrin** is a mixture.—P.J. 1887,234. Official report on, B M.J. ii./89,184; Th. Gaz., 1890,282,548; P J. 1889,197.

The continued use of Abrin is found to establish tolerance to its toxicity.—B M.J. ii/97,704.

**Infusum Abri,** R.O.H. — Jequirity seeds in powder 2, water at 120° F., 25; decant when cold. Used to produce purulent ophthalmia for the cure of granular lids.—Ophth. Rev. i./83 19 *ex* Annales d'Oculistique ii./82,42; L. ii./83,120,600,742; B.M.J. i./83,1015; B.M.J. i./84,476,564.

Epithelioma, lupoid growths and sloughy ulcers, especially when asthenic, cured by the inflammation produced by infusion.—L. ii./84,32.

# ACIDUM BENZOICUM.

**Benzoic Acid** (*Off.*).—*Syn.* BENZOYL HYDRATE.

*Dose.*—5 to 15 grains (**0·32 to 1 Gm.**).

Soluble, if pure, 1 in 400 of water; very soluble n alcohol, fats, oils, and alkaline solutions (forming benzoates). It prevents fats becoming rancid, as in *Adeps Benzoatus* (*Off.*),—prepared from Benzoin 3, Lard 100, heated for 2 hours on a water-bath, and strained.

Has been recommended as an antipyretic, and is given to relieve chronic cystitis.

Four grains of Benzoic Acid with 1 grain of Canada balsam, or 1 minim of glycerin, make a good pill, but it is more frequently administered in solution, as a benzoate.

A one in 20 solution in alcohol relieves urticaria, and, diluted with water, may be used as an antiseptic lotion. Applied as a dry antiseptic, its dust is irritating to the nostrils of patients and attendants.

Tablets, Compound, *v. Index*.

**Trochisci Acidi Benzoici** (*Off.*).

Contain ½ grain in each, with fruit basis; those of T.H. have a red currant basis. Useful as a voice lozenge.

**Ammonii Benzoas** (*Off.*).

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

In colourless laminar crystals; soluble 1 in 5 of cold water, and 1 in 30 of alcohol.

**Sodii Benzoas** (*Off.*).

*Dose.*—5 to 30 grains (0·32 to 2 Gm.)

In white granular crystals; soluble 1 in 2 of cold water.

Benzoic Acid and the benzoates have been used as germicides, given in large doses, in the treatment of phthisis and various febrile diseases,—diphtheria, tonsillitis, and scarlet fever.

Successful in the treatment of rheumatic polyarthritis where salicylates fail; in dose up to 4 drachms daily.—Pr. xxv. 218.

In uræmia is given with success, albuminuria lessens, it inhibits the formation of urea, one to two drachms a day, given hourly.—B.M.J. i/88,90; Th. Gaz. 1888,263.

In the treatment of acute rheumatism, doses of 15 to 20 grains every 2 or 3 hours were successful in 5 cases. Should be continued in diminished doses for 24 or 48 hours after the rheumatic symptoms have disappeared.—B.M.J. i./81,336.

Cholera, injections of two drachms sodium benzoate in a quart of hot water, with or without opium, recommended by College of Physicians. —L. ii./92,683.

**Calcii Hippuras**, Calcium Hippurate.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

In shining white crystals, soluble 1 in 27 of water.

**Lithii Hippuras**, *v.p.* 319.

**Sodii Hippuras**, Sodium Hippurate.

*Dose.*—5 to 30 grains (0·32 to 2 Gm.).

Is met with in commerce as a readily soluble white amorphous powder. Both it and the benzoate are recommended in gout, gravel, and calculus, as solvents for urates, an alkaline citrate being added if the urine of the patient be abnormally acid; hippuric acid salts react on rates in solution, and in time no trace of uric acid can be detected. Unlike the other organic salts of alkalis in which the acid radicle is decomposed by passing through the system, when taken, Benzoates and Hippurates are found in the urine as Hippurates.—L. i./83,487,579,669.

**Acidum Cinnamicum, Cinnamic Acid, Cinnamylic Acid.**

In transparent micaceous crystals, very slightly soluble in water.

A 5 per cent. oily emulsion with yolk of egg made alkaline, recommended as an intravenous injection in phthisis; and in lupus injected into the diseased part.—B.M.J.E. ii./93,87.

**Sodium Cinnamate.**—*Syn.* HETOL.

Solution 1 in 20 of distilled water or normal saline solution, sterilized, for intravenous injection, has been found to exercise a beneficial effect in the treatment of phthisis.—P.J. i./99,146; B.M.J.E. i./99,51; ii./00,16; i./01,3.

Value of oil and preparations of cinnamon as internal antiseptics injected for phthisis, and given internally for cystitis and influenza.—B.M.J. i/95,584,697,753.

**Heto-Kresol.**—Cinnamyl-metakresol.

Is used in cases of tuberculous wounds and broken surfaces. It is a white crystalline powder insoluble in water or glycerin, but slightly soluble in alcohol, and very soluble in ether.—Therap. 1899,16.

## ACIDUM BORICUM.

**Boric Acid** (*Off.*).—*Syn.* BORACIC ACID, HYDROGEN BORATE.

*Dose.*—**5 to 15 grains (0·32 to 1 Gm.).**

In white, pearly, laminar crystals, unctuous to the touch, without odour; has a bitterish, cooling, not acid taste. Obtained for medical purposes from borax by the action of sulphuric acid. Soluble 1 in 25 of cold water, 1 in 3 of boiling water, 1 in 25 of 90% alcohol, 1 in 5 of glycerin at 32° F., 7 in 10 at 212° F., slightly soluble in volatile oils. May be made into pills with glycerin of tragacanth, or with a fifth of its weight of cream of tartar and water.

It possesses mild antiseptic and antiputrefactive properties, but is not destructive to all low organic growths, *e.g.*, mould fungus.

Equal parts of boric acid and borax form a compound equally antiseptic and more soluble.—P.J. 1890,346; M.C. Nov. 1891,107; Th. Gaz. 1891,745. This mixture has been termed **Antipyonin.** **Glacialine** is a similar mixture.

Given in 10-grain doses internally to sterilize the urine before operations on the urethra.—Y.B. 1888,206.; B.M.J. i./88,1165. For typhoid.—B.M.J.E. i./93,7.

Long continued internal use of borates may give rise to skin rash and albuminuria. — B.M.J.E. i./95,4; L. ii./98,1406; i./99,23.

Its use and abuse as a milk preservative.—L. ii./99,1282.

**Glycerinum Acidi Borici** (*Off.*)., **Glyceritum Boroglycerini, U.S.**

Heat Glycerin 9 (by weight) to not above 302° F., and add Boric Acid in fine powder 6. Continue heat with stirring until weight is reduced to 10, and add Glycerin (by weight) 10. Is the equivalent of **Boroglyceride,** which was a patented preparation. Is readily soluble in water and alcohol. It is recommended as a powerful antiseptic and preservative of meat, fish, milk, and other food—1 in 40 of water is used. Used as a surgical dressing, for purulent ophthalmia and otorrhœa, and given internally in aqueous solution, or in pills combined with althæa.—L. i./83, 273; Pr. xxxiii.47.

**Branalcane.**

Under this name a rose-coloured compound of Boroglycerin, with a trace of Resorcin, is recommended as a pigment for diphtheria and throat, aural, nasal, and skin affections.

**Lanolimentum Boroglycerini.**

Boric Acid 2, Glycerin 10, Water 5. Heat to dissolve, and add Wool Fat 35, Olive Oil 13.

**Gossypium Acidi Borici, T.H.,** *v.p.*259.

**Linteum Acidi Borici.**

Lint impregnated with half its weight of Boric Acid, and coloured pink.

**Listerine.** An American specialty, principally used as lotion or mouth wash.

*Dose.*—1 or 2 drachms (3.5 to 7 Cc.).

Contains approximately Boric Acid 25, Benzoic Acid Thymol 1, Eucalyptol 1, Oil of Gaultheria 2, Oil of eppermint ½, Tincture of Baptisia 15, Alcohol (90 per ent.) 325, Water to 1,000.

**otio Acidi Borici.**

Boric Acid 1; hot water 20. Dissolve, and when ld use the clear solution.—L. i./75,603.

**Pastillus Acidi Borici, T.H.**, *v.p.*255.

Useful in aphthous affections of the mouth and throat.

**Pessus Acidi Borici.**

Ten grains (0·65 Gm.) in each, with oil of theobroma. Convenient to replace douches after delivery.—B.M.J. ii./91,577.

**Pigmentum Acidi Borici.** — *Syn.* SOLUTIO SATURANS.

Boric Acid 1, Ether 3, Alcohol (90 per cent.) 6. Useful as a pigment in ringworm and other skin ffections.

**Pulvis Acidi Borici Compositus, G.H.**

Boric Acid 1, Zinc Oxide 3, Starch 6. For external pplication. U.C.H. for insufflation has Boric Acid 24, Potassium Bromide 24, Iodoform 2, Starch 99, Morphine Acetate 1, in fine powder.

**Styles of Boric Acid** for the lachrymal sac and duct are prepared two inches long.

**Suppositorium Acidi Borici.**

Three grains (0·2 Gm.) in each. Useful in pruritus.

Tablets, 5 grains (0·32 Gm.)

*Dose.*—1 to 3.

**Unguentum Acidi Borici** (*Off.*).

Boric Acid, in very fine powder, sifted 1, Paraffin Ointment, white, 9. Mix. (1 to 6 in B.P. 1885.)

**Unguentum Acidi Borici** (Lord Lister).

White Wax 1, Paraffin 2, Almond Oil 2; melt, and add in fine powder Boric Acid, warmed, 1; mix, and stir till it thickens. Set aside, and when solid reduce by rubbing in successive portions to an uniform smooth ointment.—L. i./75,787. Now discarded by Lord Lister in favour of B.P. and following ointments:—

**Unguentum Acidi Borici** (Martindale).

| | No. 1. | No. 2. | No. 3. |
|---|---|---|---|
| Paraffin (135° or 140°) ... | 5 ... | 5 ... | 5 |
| Vaseline ... ... ... | 5 ... | 10 ... | 15 |
| Boric Acid, in fine powder ... | 2 ... | 3 ... | 4 |

Melt the paraffin and vaseline together; sift the Boric Acid into the liquid, and stir constantly till cold. These three ointments contain the same quantity of Boric Acid, or 1 to 5 of basis; they are also made **half** and **quarter strength,** *i.e.*, 1 of the acid to 11 and 1 to 23 of basis respectively. The ointment of full strength is used where cavities exist; the others to superficial wounds which it is desired to heal rapidly.

Boric Acid ointment is applied to surface wounds, burns, eczema, chaps, and sores, as an antiseptic dressing and "healing ointment." On removal, it should leave the wound "clean"—it should adhere to the material on which it is spread, not so much to the sore. It is applied more like a plaster than an ointment. The hard ointment of Lord Lister is now not in request. The No. 2 ointment, spread on lint or rag, is most suitable for general use, except in the summer, when it is sometimes too soft. No. 1 should then be used, and for smearing on No. 2 is sometimes too hard, when No. 3 should be used. It is very useful in pruritus ani et pudendi. Boric Acid ointment is also very serviceable as a dressing for scalds and in the minor surgery on shipboard. For hot climates, Lister's or No. 1 should be used.

**Tubes** (collapsible) containing **Boric Acid Ointment** No. 3, are convenient for the nursery and domestic use.

Boric Acid was the basis of two Swedish nostrums—Aseptin, a powder, and Aseptin Amykos, a liquid, used in the preservation of articles of food and as an application to wounds. Boric Acid was used for the preservation of milk, often mixed with an equal quantity of borax (*v. p.* 4), but is undesirable. It is mild, and unirritating; even mechanically, the crystals do not irritate the skin, mucous membrane, wounds, ulcers, or granulating sores. Its powder, mixed with starch, forms a useful "dusting powder" for infants, &c. It checks the fetor of perspiration. A little Boric Aicd powder sprinkled in the socks or stockings prevents the disagreeable odour of sweating feet. The ointment is used as above described. The lotion and lint are useful in ulcers of the legs and elsewhere. A piece of protective oiled silk, sufficient to cover the sore exactly, is dipped in the boric lotion and first applied, and over his a piece of boric lint, also soaked in the lotion, large enough to extend an inch beyond the protective, is kept *in situ* with a bandage. Boric Acid and Borax with glycerin or honey form valuable applications for aphthæ and stomatitis. Glycerin of Boric Acid is useful for tender corns, and the powdered acid wards off fleas, flies, cockroaches, &c.

**Salve Mulls** are spread with **Boric Acid**—on one or both sides, containing 10 grammes in ⅛ square metre (*v.p.*529).

**Liquor Magnesii Boratis.**

Magnesium Carbonate 233, Boric Acid 1550, boiling water 7500. Contains Boric Acid about 1 in 6. Is said to be the composition of **Antifungin.** Is recommended as a paint for diphtheria.—B.M.J. ii./87,526.

**Magnesii Boro-citras, Magnesium Borocitrate.**

*Dose.*—15 to 30 grains (1 to 2 Gm.)

In white powder or colourless scales, soluble in water; used as an urinary antiseptic internally for stone, gout and rheumatism; and 1 with 2 of Sugar is prescribed as **Boracite**, or Compound Powder of Boro-citrate of Magnesium (*dose*, 60 grains *ter die*), to sterilize the urine 48 hours before operations.—L. i./98,1106.

**Zymocide.**

A liquid antiseptic and deodorizer—agreeable, non-irritating, and non-poisonous. Diluted 1 to 5 or 10 of water, is used as a vaginal douche, also as a tooth-wash and for toilet purposes generally. Said to contain Extracts of Golden Seal and Calendula, Zinc Sulphocarbolate, Boric Acid, Witch Hazel, Sodium Thymolate, Menthol, and the Oils of Wintergreen, Spearmint, and Eucalyptus.—Therap. 1898,294.

## ACIDUM CARBOLICUM.

**Phenol** (*Off.*).—*Syn.* CARBOLIC ACID, PHENIC ACID, PHENYL HYDRATE, PHENYL ALCOHOL.

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.)

In colourless crystals liable to become pink; neutral to test paper; obtained commercially from coal tar. Official Phenol melts not lower than 102° F.; but the purest Phenol of commerce—Carbolic Acid No. 1—melts at from 104° to 107° F. If, while liquefied, about 10 per cent. of water be added, it becomes hydrated and remains liquid, unless exposed to a low temperature. It dissolves freely in alcohol, ether, chloroform, glycerin, fixed and volatile oils, fats, melted resins,—in vaseline about 1 in 20, water at 56° F. 1 in 14, at 95° F. 1 in 12. With a less quantity of water it forms an oily mixture, not a perfect solution, unless heat be applied; at 155°F. Phenol and water mix and dissolve in all proportions. A pure Phenol is manufactured synthetically from benzene and from aniline oil.

Phenol is a powerful antiseptic, antiputrefactive, and disinfectant, and applied locally, it has an anæsthetic action, similar, but inferior, to that of cocaine.

It causes more deaths from poisoning than any other drug. Apomorphine is the most prompt and suitable emetic, and magnesium or sodium sulphate, white of egg, and large doses of any innocuous oil should be given. Calcium saccharate is also recommended.

*Carbolic Acid and its homologues and liquid preparations containing more than three per cent. of these are now deemed poisons, and placed in Schedule A, Part 2, of the Pharmacy Act,* 1868.

Vinegar is an antidote to the caustic effects of carbolic acid, both internally and on the skin.—L. i./96, 255.

Pure alcohol said to effectually prevent escharotic action on the tissues.—L. i./00,481; P.J. ii./99,62.

As antidote, Camphorated Oil recommended; 100 grains administered, patient improved in an hour, and completely recovered in a short time.—C. & D. ii./99, 1054.

Methods of testing carbolic disinfectants.— L. i./00, 158; P.J. ii./98,325.

## *Commercial Varieties in general use.*

**Absolute Phenol,** in 1 lb., 4 oz., and 1 oz. bottles.

Detached crystals, slightly hygroscopic, taste pungent succeeded by a sensation of coldness in the mouth.

**No. 1 Carbolic Acid,** in 1 lb. bottles.

Of the same degree of purity as Absolute Phenol, but occurring in solid acicular crystalline masses. One part of either absolute phenol or No. 1 acid will make a perfect solution in 14 parts of water at 56° F. These are best dapted for surgical and medical use. They have not he slightest disagreeable odour.

**No. 1 Carbolic Acid,** *Liquid.*

Ten per cent. of water added to above (crystallises in winter better with 15 per cent. at least).—P.J. ii./00,473.

**No. 2 Carbolic Acid,** *Crystals*, in 1 lb. bottles; and

**No. 2 Carbolic Acid,** *Liquid*, in 6 oz. bottles, or bulk.

These make a clear solution in 18 parts of water, are suitable for many surgical purposes, and, as they have no disagreeable odour, they are, being less costly than the above, adapted for use in the sick-room; 1 in 40 may be sprinkled about, &c.

**No. 4 Carbolic Acid,** *Liquid*, in 16 oz. bottles, or in bulk.

This contains about 10 per cent. of Phenol, and nearly 90 per cent. of Cresols, and is suitable for use as a household disinfectant for drains, sinks, water-closets, urinals, &c. A solution 1 in 40 of hot water is best used at night. It is colourless or pale straw coloured.

**No. 5 Carbolic Acid,** *Liquid*, in gallon jars or bulk.

Is adapted for stable use, dust-bins, &c.

**Acidum Cresylicum.** Cresolum Crudum P.G. iv.

*Syn.* CRESYL, PARACRESYLOL, CRESYL HYDRATE.

A mixture of ortho-, meta-, and paracresols, forming the principal constituent in the last two preparations. The commercial article is much less soluble in water than Phenol, and is recommended for vaporization in whooping-cough.

**Kresolum,** Ortho-Kresolum. P.Aus. Add.

In colourless acicular crystalline masses becoming yellow or brown. By the addition of one-tenth of water it forms Kresolum liquefactum, and **Aqua kresolica**, P. Aus. Add., is formed by adding of the latter 22 to water *q.s.* to 1000.

**Traumatol,** *v.p.*299.

**Trikresol,** a German specialty, is a purified mixture of the three cresols. It is a clear, colourless, oily liquid soluble about 1 in 40 of water, and is said to have three times the germicidal power of Phenol. For surgical use, ½ to 1 per cent. solution recommended.—P.J. 1894,776; **Trikresol**, as eye wash, 1 in 1000 or 2000 often better than perchloride.—Therap. 1900,16.

**Cresol Salicylas, Cresotic Acid,** *v.p.*39.

**Creolin** and **Lysol,** *v.pp.*159,160.

**Acidum Carbolicum Liquefactum**, Liquefied Phenol (*Off.*).

*Dose.*—1 to 3 minims (0·06 to 0·18 Cc.).

Phenol liquefied by the addition of 10 per cent. of water. Is less liable to acquire a pink colour thanthe crystals.

**Carbolate of Mercury,** *v.p.*264.

**Carbolic Acid, Camphorated.**

Phenol 12, Camphor 4, Water 1.

Melt or rub together till liquefied. Remains liquid at low temperatures, but is not miscible with water.

A useful wound dressing, and injected to abort boils. Pr. xl.128. Also used as a pigment to the cervix uteri.

Recommended as an antiseptic, germicide, and local anæsthetic.—L. ii./89,867.

A saturated solution of camphor, about 3, in one of liquid carbolic acid, used with success as an intrapulmonary injection in phthisis; no internal irritation; average dose, 10 minims.—Pr. xlii. 52.

**Carbolic Acid Gauze, Carbasus Acidi Carbolici.** In 6-yard pieces.

Unbleached cotton gauze, medicated with half its weight of—Phenol 1, Resin 4, Paraffin 4.

B.M.J. ii./71,227; P.J. 1872,41; L. ii./79,901.

**Carbolic Acid Lotion.** *Syn.* PHENOL LOTION.

Liquefied Phenol 1, Water 19 or more.

**Carbolic Colloid,** *v.p.*199.

**Carbolic Oil.**

Phenol 1, Olive Oil 9 (more or less, if ordered).

A modification of this, known as **Lund's Oil,** is used for oiling catheters; it is—

Phenol 1, Castor Oil 4, Olive Oil 11.

As the olive oil crystallizes in winter, the following **Catheter Oil** answers better:—

Phenol 1, Castor Oil 7, Almond Oil 8. St. George's Hosp. employs **Oleum Lubricans**—Cocaine 25 grains, Oil of Eucalyptus 10 minims, Castor Oil ½ ounce, Olive Oil ½ ounce.

**Catheter Paste.**

Tragacanth 2·5, Glycerin 10, Phenol Solution (3 per cent.) 90.—P.J. ii./99,529.

**Surgical Lubricant** for catheters, &c.

Starch 4, Glycerin 35, add Water 8½; heat to boiling, remove from flame and add Boric Acid in powder 2½, warm to dissolve and when nearly cold add Phenol 1. The Lubricant is supplied in collapsible tubes. Contains nothing to attack the metal of instruments, has the advantage over oily compounds of not attacking rubber goods, and can be removed by water.

**Carbolised Catgut Ligatures.** Nos. 0, 1, 2, and 3. No. 0 is finest.—B.M.J. i./69,303; P.J.1872,41; Pr. xxv.372.

**Carbolised Iodine Solution** (Colourless).

Solution of Iodine, (Lugol's) 2·5, Phenol 1, Boiling Water to 200.

As a pigment in diphtheria, or as a gargle or inhalation. Internally for Asiatic cholera.—L. ii./83,566.

Useful as a nasal douche in ozæna.—L. ii./67,119; L. ii./83,845,935. For intra-uterine injection.—L. ii./88, 862, 993.

**Carbolised Silk,** for ligatures, is impregnated with Phenol 1, Yellow Wax melted, 9.

**Carbolised Tow.**

Tow impregnated with tar, and containing 10 per cent. of Phenol.

**Carbolised Wool,** in 1 lb. packets.

Cotton wool charged with 6 per cent. of Phenol.

**Capsules of Carbolic Acid.**

Contain one drachm in each glass tube, sufficient for half a pint or a pint of lotion; are portable and suitable for the use of obstetricians and surgeons.

**Collunarium Alkalinum Compositum, T.H.**

Carbolic Acid 2 grains, Sodium Bicarbonate 5 grains, Borax 5 grains, Water to 1 ounce.

**Glycerinum Acidi Carbolici** (*Off.*).

Phenol 1, Glycerin *q.s.* to 5.

Useful in pertussis. *Dose.*—Under 1 year ½ minim, 2 to 5 years, 1½ minims.—B.M.J. i./88,743; i./89,1052, 1154; L. i./89,701.

**Pigmentum Antisepticum.**

For hay fever, Glycerin of Carbolic Acid 1 ounce, Quinine Hydrochloride 30 grains, with $\frac{1}{2000}$ part Mercuric Chloride added, forms a useful pigment for the nasal passages.—L. i./88,1169.

**Iodized Phenol; Pigmentum Iodi Carbolicum. G.H.**
Iodine 1, Liquefied Phenol 4. Digest till dissolved. For intra-uterine medication on cotton 'lap.'—B.M.J.i./80,471, and Pr. xxv.297. Useful also as an application for ringworm of the scalp.

**Oiled Silk Protective.**
Oiled silk coated on both sides with copal varnish, and when dry brushed over with Dextrin 1, Starch 2, Carbolic Lotion (1 in 20), 16.—B.M.J. i./71,31; P.J. 1872,42. For use, *v.p.*14.

**Pastillus Acidi Carbolici, T.H.**
Contains ½ grain (0·032 Gm.) Phenol. Antiseptic and stimulant.

**Perles of Carbolic Acid.**
Globules of carbolic oil, containing one grain (0·065 Gm.) of Phenol in each. *Dose.*—1 or 2.

**Pilula Acidi Carbolici.**
Phenol 2, Powdered Liquorice 1, Powdered Althæa 1. In grains for one pill, in grammes for 15 pills. Makes a good pill. *Dose.*—1.

**Smelling Salts, Carbolised.**
Phenol 24, Ammonium Carbonate 16, Strong Solution of Ammonia 44, Oil of Lavender 1½, Camphor 3. Pine Sawdust (sifted) *q.s.* For coryza, hay fever, influenza, &c.

**Suppositorium Acidi Carbolici.** (*Off.*)
Phenol 1, White Beeswax 2, Oil of Theobroma, melted, 12 or *q.s.* For suppositories of 15 grains or 1 gramme.

**Trochisci Acidi Carbolici** (*Off.*).
One grain (0·065 Gm.) in each with Tolu basis.

**Unguentum Acidi Carbolici** (*Off.*).
Phenol 1, Glycerin 3. Dissolve and add Paraffin Ointment, white, 21.

**Salve Mulls** are spread with lead plaster and Phenol 5 grammes in ⅙ square metre, *v.p.*529.

**Vapor Acidi Carbolici, T. H.**
20 drops of No. 1 liquid acid in a pint of water at 140° F. As a spray, 3 drops to an ounce of water. Useful in pertussis.—B.M.J. ii./80.167.

**Carbolic Soaps.**

For household, toilet, and medical purposes, are repared of various strengths up to 20 per cent.

**Preservative Solution** for Anatomical Subjects.

Phenol 1, Glycerin 4, Methylated Spirit 5. Used for injection into the aorta.

## *References.*

For gradual development of the surgical uses of Carbolic Acid—LISTERISM—in the Antiseptic Treatment f wounds, compound fractures, abscesses, &c., *vide* L. i./68,326,357,387,507; L. ii./68,95,335,668; L. ii./75,515; L. ii./79,901; B.M.J. ii./68,53,101,461,515; B.M.J. i./69,301; B.M.J. ii./69,601; B.M.J. ii./70,243; B.M.J. i./71,30; B.M.J. ii./71,225; B.M.J. ii./75,769; B.M.J. ii./77,465,901; Dub. Jour. Med. Sci. Sept. 1875,229, Aug. 1879,97.

Plymouth and Dublin Addresses on.—B.M.J. ii./71,225; L. ii./79,901; Dub. Jour. Med. Sci. Aug. 1879,97; P.J. 1872,21,41.

Debate on.—L. ii./79,922; B.M.J. ii./79,906,1001.

Re-adoption of Carbolic Acid Antisepsis.—L. i./93, 178,285,345; B.M.J. i./93,161,277,337.

SHORT DIRECTIONS FOR CARBOLIC DRESSING.— . Before and during the operation.—(1) Carbolic Acid Spray. Steam passing through a solution of 1 part of Carbolic Acid to 20 parts of water. (2) Sponges, hands of operators, &c., dipped in solution of Carbolic Acid: 1 in 20. (3) Instruments covered with oil, containing one-tenth part Carbolic Acid; some are dipped into or kept in watery solution: 1 in 20. (4) During intermission of spray, the wound is covered with a cloth dipped in Carbolic Acid solution: 1 in 20. *b.* After operation.—(1) A strip of lint soaked in an oily solution of Carbolic Acid (1 in 10), or a pure rubber drainage tube, similarly treated, is left hanging from the wound during the first and, if necessary, following) days. Either of them is cut off flush with the edge of the wound. (2) Over this placed oiled silk protective, in which a small hole cut corresponding with the end of the drainage tube, immersed 1 in 40, carbolic lotion, just before being laid upon the wound; this is intended to prevent irritation, which would be caused by the actual contact of the antiseptic dressing with the wound. Then (3) seven layers of the antiseptic gauze. (4) Over this is applied the mackintosh, which is about 1 inch less in size than the gauze. (5) Then another layer of antiseptic gauze is applied; and, finally, (6) carbolised bandages, or elastic india-rubber web bandage round the edges of the dressings to insure that these are always in contact with the skin.—M.R. 1879,409 (modified).

The use of Carbolic lotion keeps off flies and other insects.—L.i./87, 1297.

As Carbolic Acid coagulates albumen, it is sometimes employed in the strong liquid form as a caustic. Anointing with oil any part accidentally touched with it will, to a certain extent, neutralise its caustic action. Camphorated Phenol is used with advantage in ulcer of the os and cervix uteri, in chronic inflammation of the uterus and cervix with excoriation, and in chronic uterine catarrh.—R. One in 80 or more of water as a vaginal injection, in leucorrhœa, uterine ulceration, and cancer, cleanses, heals, disinfects, and allays pain. Glycerin of Phenol is useful in ringworm; and an ointment, 10 to 30 grains of the acid to an ounce of lard, or added to other ointments, is efficacious in various parasitic skin diseases. As an inhalation Phenol lessens and disinfects the over-abundant expectoration in bronchitis and gangrenous lung. The pastil, lozenge, or gargle 1 in 100 of water, is useful in sloughs of the mouth or throat.

Internally, in peppermint water, or better, the pilula acidi carbolici or perle is useful in flatulency with great distention, unaccompanied by pain; attention has been called (L. ii./87, 986) to its antipyretic action; it is often combined with rhubarb and extract of nux vomica—a minute quantity of glycerin added will make these combine to form a pill; but Phenol is more frequently administered as a sulphocarbolate.

Typhoid and diarrhœa, successful treatment of, by carbolic acid in pills, keratin-coated. Is prophylactic to scarlet fever and stamps out puerperal septicæmia.—B.M.J. ii./92,1424; i./93,347,500,637,1311; i./94, 909; L.ii./93,1305.

A 2 per cent. solution in spirit as a pigment in diphtheria.—B.M.J.E. i./92,51.

Acid Carbolic in initial stage of influenza successful; 2 minims t.d.s.—B.M.J. i./92,171; P.J. 1892,611.

Large doses of 7 and 8 grains recommended for the cure of influenza.—L.i./99,958.

Hæmorrhoids injected with Phenol and Glycerin, equal parts; successful.—P.J. 1895,959

Compresses soaked with 5 per cent. solution of Phenol may cause coma.—L.i./95,1362; M.C. Dec./97, 08.

Several cases of tetanus recovered after subcutaneous injection of Phenol.—L.ii./95,169; i./97,168; B.M.J.E. i./96,72; Pr. lxii.309.

Tetanus, excellent results from doses of 3 or 4 centigrammes in a 3 per cent. solution, up to 35 centigrammes a day: 34 cases, only one death.—B.M.J.E. i./99,15; /00,32.

Phenol is freely soluble in caustic alkaline solutions, and a French specialty, known as *Phenol Iodique*, is much used as an antiseptic solution by dentists. Its composition is about as follows:—

**Liquor Sodii Carbolatis.**

Phenol 8, Caustic Soda 4, Distilled Water 100.

**Acidum Sulphocarbolicum.**

*Syn.* PHENOL-SULPHONIC or SOZOLIC ACID.

Prepared by the action of strong sulphuric acid on phenol; crystallises with difficulty, dissolves readily in water, alcohol, and glycerin, and is a strong antiseptic and disinfectant. A 33 per cent. **solution** has been sold as **Aseptol**.—L. ii./85,588; M.R. 1885,342; B.M.J. i./87,29. In gingivitis and pyorrhœa a 3 per cent. **solution** useful, reduces swelling, arrests flow of pus, and the gums return to their natural shape.—P. J. 1887,884.

**Cupri Sulphocarbolas.**—*Syn.* CUPRI-ASEPTOL.

In light green small crystals, soluble in water, useful as a hæmostatic.

**Sodii Sulphocarbolas** (*Off.*). SODIUM PHENOL-PARA-SULPHONATE.

In white rhombic crystals, like magnesium sulphate. Soluble 1 in 5 of water. *Dose*.—5 to 15 grains (0·32 to 1 Gm.), for flatulency, cholera, the dyspepsia of phthisis, and diphtheria.—R., L. i./68,144; i./69, 96; ii./83,448.

Twenty grain doses alternately with 1 grain of quinine every 2 hours, found useful in chorea.—P.J. i./00,95.

**Zinci Sulphocarbolas** (*Off.*). ZINC PHENOL-PARA-SULPHONATE.

Crystals in rectangular colourless plates. Soluble 1 in 2 of water. Useful in gonorrhœa and leucorrhœa; 2 or 3 grains in an ounce of water for injection.

Tablets, 2 and 10 grains (0·13 and 0·65 Gm.).

**Bromol.**—*Syn.* TRIBROMOPHENOL.

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) in pill.

Obtained by the action of bromine on phenol in solution, and recrystallized from alcohol. In long silky needles, nearly insoluble in water, readily soluble in alcohol, ether, chloroform, and glycerin; also soluble in fats and oils; has an odour resembling bromine, and sweet astringent taste. Is a caustic and disinfectant. May be used alone, or in ointment (1 in 10), oily solution (1 in 30), or for diphtheria in glycerin solution (1 in 25). Is not dissolved by gastric juice, and is used as an intestinal disinfectant and in typhoid, also in minute doses for cholera infantum.—L. ii./91, 831.

**Tribromophenol-Bismuth.** *Syn.* Xeroform.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

A greenish-yellow neutral insoluble powder, with faint odour and taste, containing bismuth oxide and tribromophenol in nearly equal proportions. A powerful bactericide recommended specially for cholera.—B.M.J. i./93,541; L.ii./97,314.

Useful in military surgery.—L. i./99,1509.

Good results in the Cuban war.—L. ii./99,1459; B.M.J.E. ii./99,88; P.J. i./00,65.

**Gallobromol, Dibromo-gallic Acid.**

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

In whitish minute crystals, soluble 1 in 10 of water, also in alcohol. Used internally in place of alkaline bromides as a nervous sedative, and as an antiseptic astringent injection in gonorrhœa, chordee, and cystitis, and lotion in eczema.

**Phenol-Bismuth,** *v. p.* 108.

**Phenosalyl.**

A German specialty, said to consist of a solution of carbolic, salicylic, and lactic acids, with menthol and eucalyptol. Dissolves 1 in 25 of water and is recommended, 1 per cent., as antiseptic lotion or ointment mixed with an equal quantity of glycerin as a caustic; and internally, in dose of 1 or 2 minims, for flatulence.

**Sulphaminol.**—*Syn.* THIO-OXY-DI-PHENYLAMINE.

A light greenish-yellow powder, tasteless and odourless, insoluble in water, soluble in alkalies and alcohol. Has been used as an antiseptic, its action being due to its decomposition in contact with the fluids of the body, into sulphur and phenol.

**Trichlorphenol.**—*Syn.* TRICHLORPHENIC ACID.

A derivative of phenol, in white acicular crystals, with a disagreeable tarry odour, pungent taste, entirely volatilised by heat; very soluble in alcohol, ether, glycerin, fixed and volatile oils; insoluble in water. The salts of calcium and magnesium have been used medically; the solid substance is but little irritating to the tissues, and the solutions not at all.

**Chlorphenol.**—Under this name a mixture of a **Monochlorphenol** with eugenol, menthol, and alcohol, is sold, and has been used as an inhalation in phthisis. Five cases reported.—L. ii./91,1410.

**Ortho-monochlorphenol** is a colourless oily liquid with a very diffusive and persistent odour.

# ACIDUM CHLORACETICUM.

## Mono-Chloracetic Acid.

A chlorine compound of acetic acid, in deliquescent white crystals, or more generally liquefied. It blisters the skin, and is used as a caustic for warts and corns, but the preparation more frequently used is

**Acidum Trichloraceticum, P.G.**

In deliquescent rhombohedral coalescent crystals. This is a quick escharotic for venereal and other warts; useful in throat affections. The application of a crystal produces a dry adhering eschar which is more quickly thrown off than that produced by chromic acid. No secondary inflammation or unpleasant effects. For use as an astringent, 1 dissolved in 1 or 2 of glycerin with a little iodine and potassium iodide.—L. i./90,1142; P. J. 1890,471; M. C. 1890,304; Th. Gaz. 1890,332.

Recommended in chronic gonorrhœa, solution 1 in 4, applied on a tampon by means of an endoscope; less painful than silver nitrate. Also, diluted, for epistaxis.

Is a delicate test for albumen, *v. pp.* 527,528.

As an astringent a 1 per cent. solution is employed.—P.J. ii./00,586.

**Acetocaustin.** Under this name a 50 per cent. solution of trichloracetic acid is used as a caustic.

**Acidum Dichloraceticum.**

Used as a caustic in venereal sores.—P.J. ii./00,586.

## ACIDUM CHROMICUM.

**Chromic Anhydride** (*Off.*).—*Syn.* CHROMIC ACID.

In deliquescent, crimson, acicular or columnar crystals. It is odourless, and a powerful oxidising agent, decomposing alcohol, glycerin, &c., with evolution of heat. For use as a caustic, should be free from sulphuric acid, as then it does not spread over the surrounding tissue not requiring its action.

**Liquor Acidi Chromici** (*Off.*)—1 to 3 of water.

A watery solution—1 in 4, or stronger—is applied with a pointed glass rod to warts on genitals, to condylomata and lupus; and 1 in 40 to ulcerated gums, and syphilitic affections of tongue, pharynx, and larynx.—Pr. xxx.175. Fatal result from use of a solution of 100 grains in 1 ounce.—B.M.J. ii./89 487; Ed. M.J. 1890,88.

For sweating feet; after washing, paint with a 5 to 10 per cent. solution.—Pr. xliii 299; B.M.J. ii./89,1256.

Successful use of chromic acid in cystic goître, ranula, and other cysts; a concentrated solution applied to the bounds of the cavity; also in epithelioma of tongue. More sensitive test for albuminuria than picric acid.—L. i /90,1350; ii /90,45; ii./91,1388; Th. Gaz. 1890,537.

Of great value in syphilides of mucous membrane, lingua geographica, lingual psoriasis, nodules of the tongue, warts, &c. A concentrated solution (1 to 2) applied by means of a brush, and after a few minutes washed off with acetate of aluminium solution.—Pr. xlviii.126.

**Chromic Catgut Ligatures.** Nos. 0, 1, 2, and 3. No. 0 is finest. (Lister).

Take of Catgut, on the stretch, 5 parts, and immerse for twelve hours in chromic acid 1 part, distilled water 100 parts; transfer, after removing the excess of liquid with a cloth, into 100 parts of sulphurous acid, in 12 hours take out and dry the gut, and keep it dry. Before using, place it along with the instruments for 15 minutes in 1 in 20 carbolic lotion. (Alcoholic preferred.—L. ii./93,1181.)

## ACIDUM HYDROBROMICUM DILUTUM.
### Diluted Hydrobromic Acid (*Off.*).

*Dose.*—15 to 60 minims (0·9 to 3·5 Cc.); 60 inims=10 grains of potassium bromide. Contains 0 per cent. of hydrogen bromide.

It is a colourless, very sour liquid, without odour. is used to allay nervous excitability and exhaustion, a solvent for quinine and preventing quinism, and as n alternative for potassium bromide; 8 minims will ssolve 5 grains of quinine sulphate in water.

### Acidum Hydrobromicum Concentratum.

A Hydrobromic Acid of Sp. Gr. 1·308, which is olourless or straw-coloured, is met with in commerce. ne volume diluted with three of distilled water produces an acid of official strength and specific gravity. hould be kept from sunlight.

**Acidum Hydrobromicum.** P.G. iv. Has Sp. Gr. ·208, and contains 25 per cent. of hydrogen bromide.

For sea-sickness, an American specialty of some ser-ce contains in each dose of 2 drachms, about 40 inims of diluted hydrobromic acid and 30 grains of dium bromide, taken every 3 hours, 24 hours before nbarking, and occasionally afterwards.

To obviate the headache of cinchonism and the fulness the head felt when taking iron; for anæmia; also to move the ill effects of excess of tea or alcohol; and to lm excited heart.—B.M.J. ii./76,42; P.J. 1877,715; r. ii./76,356; B.M.J. i./77,480.

For tinnitus aurium and tickling hacking cough at ght, in doses of 10 minims or more, is very useful.—.M.J. ii./79,316.

Used as a sedative neurotic.—Pr. xx.447; xxxiii.296.

Used in headache, with flushing in the face and ringing the ears, also in toothache.—L. i./82,975.

In epilepsy, the dose should be full, as much as half an unce well diluted; 3 ounces daily given to robust atients.—B.M.J. ii./85,587.

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## CIDUM HYDROFLUORICUM PURUM.
### Pure Hydrofluoric Acid.—*Syn.* FULORIC ACID.

The impure acid of commerce redistilled for medicinal e. It contains about 30 per cent. of the gas, emits suffocating fumes, and requires to be kept in gutta percha or leaden bottles.

**Acidum Hydrofluoricum Dilutum, B.P.C.**

*Dose.*—5 to 20 minims (0·3 to 1·2 Cc.).

Contains a 0·2 per cent. of hydrofluoric acid gas. Even thus diluted should not be kept in glass bottles for use.

Goître, 20 cases treated by diluted hydrofluoric acid in doses of 15 to 70 minims—17 recoveries and 3 failures.—L. i./81,448, 497, 537.

Diphtheria, 40 cases (only 3 died) treated by inhalations of hydrofluoric acid gas; produced by the action of sulphuric acid on fluor spar heated in a leaden vessel. The apparatus requires refilling 5 times in 24 hours.—L. ii./82,543.

**Ammonii Fluoridum.**

Suggested to diminish enlarged spleen in doses of 5 to 20 minims of solution, 4 grains in an ounce, after meals. —L. i./86,991; Pr. xxxviii.413. For phthisis, inhalation from a 2 per 1,000 solution.—B.M.J. i./88,758.

**Antitussin.**

A whooping-cough remedy. Is an ointment containing 5 per cent. Di-fluoro-di-phenyl, with vaseline 10 and pure wool fat 85.—P.J. ii./00,775.

**Fluor-rheumin.**

Fluorin preparations, for rheumatism and influenza. Consists of Fluor-phenetol 1, Di-fluor-di-phenyl 1, Vaseline 10, Anhydrous Wool Fat 85.—P. J. ii./99,11.

**Ferri Fluoridum. Ferrous Fluoride.**

A purplish white insoluble powder, possessing hæmatinic properties, is valuable for enlarged spleen. *Dose.* —$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

**Quininæ Fluoridum.**—Successful in relieving enlarged spleen and in rickets.—L. ii./84,553.

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## ACIDUM LACTICUM.

### Lactic Acid (*Off.*).

*Dose.*—5 to 20 minims (0·3 to 1·2 Cc.), well diluted.

A colourless, odourless, syrupy, sour liquid, obtained by the fermentation of milk sugar; Sp. Gr. 1·21. It contains 75 per cent. of hydrogen lactate; is miscible with water, alcohol, and ether, and coagulates milk and albumen. It is employed topically to destroy morbid rowths, in diphtheria, &c., and internally as a stomachic onic in combination with iron and lime, with excess of ne acid, and for diabetes.

**Acidum Lacticum Dilutum** (B.P. 1885). Sp.Gr. 1·040. Lactic Acid 3 ounces, Distilled Water *q.s.* to 1 pint. *Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

This diluted or *medicinal* Lactic Acid is too weak for aking the preparations referred to in continental ormulæ, and may have led to the discrepancies in the esults obtained from Lactic Acid here, as compared with hose recorded on the Continent in the treatment of iphtheria and diabetes.

**Nebula Acidi Lactici, T.H.**

Lactic Acid 1, Distilled Water 15. Of great use in iphtheria; appears to have the effect of dissolving the embranous exudation.

**Pigmentum Acidi Lactici, G.H.**

Lactic Acid 1, Water 1.

**Calcii Lactas.**

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

An opaque, white, crystalline powder; unless freshly repared not readily soluble in water.

**Ferri Lactas,** Ferrous Lactate. P.G.

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.).

In greenish-white crystals, soluble 1 in 60 of water; hen taken internally is easily assimilated by the system.

**Syrupus Calcii Lactophosphatis** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Add gradually Precipitated Calcium Carbonate 25 to actic Acid 60, diluted with Distilled Water 240. When issolved add Concentrated Phosphoric Acid 46, and riturate until the precipitate formed is redissolved. Dilute with a little Distilled Water, add Orange-flower Water 25, filter, and add Refined Sugar 700; dissolve ithout the aid of heat, strain, and add Distilled Water *q.s.* to 1,000.

**Syrupus Calcii et Ferri Lactophosphatum.**

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

May be made by dissolving a grain of ferrous lactate each drachm of syrup of calcium lactophosphate.

Syrups of weaker composition than the above are sold s specialties of French manufacture, and are given in oses of 3 to 6 tablespoonfuls daily.

**Quininæ Lactas,** *v.p.*415.

**Zinci Lactas,** *v.p.*471.

In croup, lactic acid dissolves the fibrinous exudations; 15 to 20 minims in half an ounce of water used as spray with great success; also in diphtheria.

In diabetes, 2 to 4 drachms in half a pint of water taken during the day, with exclusively animal diet recommended by Cantani. Also given in dyspepsia.—Stillé and Maisch; B.M.J.ii./72,211; M.T.G.ii./72,205.

In phthisis, 10 minims twice a day, to allay cough and quench thirst, was useful.—B.M.J. ii./81,470.

In chronic catarrh of the bladder, lactic acid drinks arrest the ammoniacal decomposition of the urine, both inside as well as outside this organ, dissolve the salts which abound in it, and stop the development of microscopic organisms in it.—Pr. xxvii.213.

Pure acid as a paint, or in a paste with kaolin, or as a 50 per cent. injection, destroys lupus, but causes prolonged pain.—Ed.M.J. 1888,677; Pr. xli.214.

Lactic Acid useful in green diarrhœa of infancy in teaspoonful doses of a 2 per cent. solution.—M.C., May, 1890,128; B.M.J.E.i./91,12; i./92,16.

Lactic Acid, 150 to 200 grains daily, well diluted, useful in diarrhœa of phthisis and of typhoid.—Th. Gaz. 1890, 555.

Local use of lactic acid successful in tuberculous ulceration of pharynx and larynx.—B.M.J. ii./85,949; Y.B. 1890,293; L. ii./92,1162; Am.M.S.B.1894,998.

Useful as a caustic to ulcers of cornea.—L. ii./94,152; i./95,1452.

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## ACIDUM NITRICUM.

### Nitric Acid (*Off.*).

*Dose.*—1 to 4 minims (0·06 to 0·24 Cc.)

Has Sp. Gr. 1·42, and contains 70 per cent. by weight of hydrogen nitrate.

**Acidum Nitricum Dilutum** (*Off.*).

*Dose.*—5 to 20 minims (0·3 to 1·2 Cc.).

Contains in 6 fluid drachms one molecular quantity in grains of hydrogen nitrate. Is generally used medically.

**Acidum Nitricum Fumans** (*Off.*). Sp. Gr. 1·5. P.Jap. (P.G. 1·45 to 1·5).

A reddish-brown liquid, giving off yellowish-red fumes on exposure. Contains about 91 per cent. by weight of hydrogen nitrate. Is frequently used as a caustic.

Acne pustulata should be stabbed with a pointed ick dipped in Nitric Acid.—B.M.J. i./01,513.

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## ACIDUM OSMICUM.

**Osmic Acid.**—*Syn.* Osmium Tetroxide, Per-smic Acid, Hyperosmic Acid.

*Dose.*—$\frac{1}{64}$ grain (0·001 Gm.). Maximum daily dose $\frac{}{6}$ grain (0·004 Gm.).

Is in large yellow crystals, which soften like wax. s vapour is intolerably pungent, attacks the eyes and ostrils strongly and painfully. Its taste is acrid and urning, but it is not acid to test or taste. Soluble owly about 1 in 50 of water. It is poisonous and a owerful oxidizing body.

Potassium Osmate in 1 per cent. solution is injected relieve sciatica, and has been given internally for ilepsy.—P.J. 1886,921. A case cured.—L. ii./84,209.

**Liquor Acidi Osmici,** 1 per cent. (in water).

*Dose.*—2 to 10 minims (0·12 to 0·6 Cc.), hypo-ermically.

Is much used for hardening animal tissues preparatory mounting as microscopic objects; fat and medullary atter are blackened by it. By becoming reduced into etallic osmium, it blackens nearly everything it comes contact with, and requires to be stored in glass bottles ee from lead.

Injected hypodermically, has been used for neuralgia, nd for strumous glands, sarcoma, and cancer.—. ii./83,919; Pharm. Post, xvi.537; Pr. xxxi.207.

In sciatica, relief obtained from.—L. i./85,58; ii./87, 35. Useful in muscular rheumatism.—Pr. xli.198.

In neuralgias of severe type and long standing (note n)—5 cases cured, 2 alleviated, in 1 no success; no l effects in any.—L. i./85,1096,1189; L. ii./85,216; .M.J.E. ii./96,427; L. ii./99,1220.

Injected into goitrous swellings twice a week, gave ermanent relief.—Pr. xxxiv.48.

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## ACIDUM PHOSPHORICUM CONCENTRATUM.

**Concentrated Phosphoric Acid** (*Off.*).

*Dose.*—1 to 4 minims (0·06 to 0·24 Cc.).

Hydrated Phosphoric Acid, containing 66·3 per cent.

of hydrogen orthophosphate, corresponding to 47·4 per cent. of phosphoric anhydride; Sp. Gr. 1·5. Commercially, it is also prepared, having Sp. Gr. 1·75, and containing 64·3 per cent. of the anhydride. If of this strength, it may be reduced to B.P. strength by adding to each 3 parts by weight 1 part of distilled water.

**Acidum Phosphoricum Dilutum** (*Off.*).

*Dose.*—5 to 20 minims (0·3 to 1·2 Cc.).

Contains 13·8 per cent. of hydrogen orthophosphate, or 10 per cent. of phosphoric anhydride. Sp. Gr. 1·08.

Concentrated Phosphoric Acid 3 ounces (fluid), Distilled Water *q.s.* to 20 ounces at about 60° F.

By weight, to 4½ ounces of the acid add $17\frac{1}{10}$ ounces of distilled water; or the same result may be obtained by diluting 4 parts, by weight, of acid Sp. Gr. 1·75 with 21 of distilled water.

It renders iron preparations compatible with astringent vegetable infusions.

**Acidum Glycerophosphoricum** (*Medicinal*).

Colourless, odourless liquid, Sp. Gr. 1·3 with sour taste, miscible with water and alcohol, generally administered as its salts.

**Calcii Glycerophosphas.**

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.) in water or a weak wine.

The calcium salt of glycerophosphoric acid, which is formed, together with choline, on the breaking up of lecithin in the process of digestion. It is a white crystalline powder, easily soluble in cold, only slightly so in hot water, and is the most suitable salt for administration. It improves general nutrition of the nervous system, in all cases where nerve activity is enfeebled. May be given hypodermically, 2 to 4 grains daily.—P.J. 1894. 730; Am.M.S.B. 1894,736.

**Ferri Glycerophosphas.**

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.). In whitish powder, or in scales, slightly soluble in water.

**Pilula Ferri Glycerophosphatis** (*Robin*).

Iron Glycerophosphate 0·05 to 0·1 Gm., Rhubarb 0·05 Gm., Extract of Cinchona 0·15 Gm. One pill with meals.—P.J. 1895, 1191. A **Wine** contains 1 %, with Glycerin 5 % in Sherry.

**Lithii Glycerophosphas.**

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

A white amorphous powder, freely soluble in water.—P.J.ii./96,154.

**Magnesii Glycerophosphas.**

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.)

A white amorphous powder, freely soluble in water.

**Magnanesii Glycerophosphas.**

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

A white amorphous powder soluble in water.

**Potassii Glycerophosphas.**

*Dose.*—3 to 8 grains (2 to 5·2 Gm.)

A yellowish syrupy liquid, sold in 50 per cent. solution.

**Quininæ Glycerophosphas.**—*Syn.* KINEURINE.

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

A white powder, soluble in alcohol and, slightly, in hot water.

**Sodii Glycerophosphas.**

*Dose.*—5 to 10 grains (0·32 to 0·65 Gm.).

A translucent straw-coloured pasty mass, freely soluble in water. For convenience in use is generally applied in 50 per cent. solution. Useful in nervous affections. Said to contain 18·8 per cent. of Phosphorus.—Therap. 1899,266 ; 1900,25.

**Strontii Glycerophosphas.**

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

**Elixir Glycerophosphatum.**

Calcium Glycerophosphate 2, Sodium Glycerophosphate 2, Iron Glycerophosphate 1, Aromatic Syrup, B.P. 250. *Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

**Syrupus Glycerophosphatum** (*Robin*).

Calcium Glycerophosphate 6, Sodium Glycerophosphate 2, Potassium Glycerophosphate 2, Magnesium Glycerophosphate 2, Iron Glycerophosphate 1, Tincture of Ignatia Amara (Codex) 2, Pepsin 3, Maltine (*Diastase*) 1, Tincture of Kola (Codex) 10, Syrup of Cherries to 200 (by weight).

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.) with meals. The equivalent may be administered in cachets or glycerin solution.—P.J. 1895, 1191 (*ex Bull. Gen. de Thérap.*).

**Syrupus Glycerophosphatum Compositus B.P.C.**

*Dose.*—1 to 2 fluid drachms.

Cudbear* $\frac{1}{4}$ ounce, Distilled Water 10 fluid ounces. Boil ten minutes, filter and dissolve in the warm filtrate —Calcium Glycerophosphate 160 grains, Potassium Glycerophosphate 80 grains, Sodium Glycerophosphate 80 grains, Magnesium Glycerophosphate 80 grains, Iron Glycerophosphate (in scales) 40 grains, Citric Acid 30 grains, Caffeine Citrate 80 grains, Strychnine Hydrochloride 2 grains. Then add Refined Sugar 14 ounces. Heat until dissolved, and strain. When cold, add (mixed) Chloroform 20 minims, Alcohol (90 per cent.) 40 minims, and Distilled Water *q.s.* to 1 pint.

**Emulsio Olei Morrhuæ et Glycerophosphatum.** **Cod Liver Oil Emulsion with Glycerophosphates.**

*Dose.*—2 to 8 drachms (7 to 30 Cc.).

Contains the Glycerophosphates of Calcium, Iron. Magnesium, Potassium, Sodium, combined with Cod Liver Oil Emulsion, containing 50 per cent. Cod Liver Oil.

**Vinum Glycerophosphatum** (*Labesse*).

Contains about 1 per cent. each of Calcium and Sodium Glycerophosphates in a Bark and Kola wine.

*Dose.*—$\frac{1}{2}$ to 2 ounces (15 to 60 Cc.).—P.J.i./96,501.

## ACIDUM PICRICUM.

**Picric Acid.**—*Syn.* CARBAZOTIC ACID; TRINITROPHENIC ACID.

*Dose.*—$\frac{1}{4}$ to 2 grains (0·016 to 0·13 Gm.).

Is formed by dropping phenol into fuming nitric acid, heating the mixture, and purifying by re-crystallizing. It is in yellow, shining, laminar or acicular crystals, which give an intense deep yellow colour to water, in which it is soluble 1 in 95, and 1 in 16 of 90 per cent. alcohol. It is used for hardening tissues for microscopic examination, and as a urine test for albumen, *v.p.*526. It is intensely bitter. Its salts of ammonium and potassium have been used medicinally, and have been thought to act like quinine; the potassium salt decomposes and explodes if heated or percussed.

**Liquor Acidi Picrici,** 1 per cent. aqueous solution.

*Dose.*—$\frac{1}{2}$ to 3 drachms (1·8 to 10·5 Cc.).

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* A purplish red powder obtained by the ammoniacal fermentation of *Lecanora tartarea* and other lichens.

In ague, albuminuria, and some forms of headache it has been used, but it is apt to colour the skin, conjunctiva, and urine yellow.—B.M.J. ii./84,1109.

Successful use for erysipelas and inflammatory conditions of skin, as a pigment, 5 to 10 times a day.—B.M.J. i./89,678; L. i./89,702.

Jaundice and recovery after poisoning by picric acid.—B.M.J. i./96, 146.

Cotton wool impregnated with picric acid, saturated solution, as a cure for burns.—B.M.J. i./96, 176; ii./96, 51; B.M.J.E. i./98,88. Superficial burns treated by gauze dipped in saturated solution, wounds heal under the artificial scab produced.—B.M.J. i./99,1152.

Notes on a few surgical uses of picric acid.—B.M.J. i./97,457.

Ointment, 1 to 3 per cent., recommended for pruritus of scrotum.—Pr. lix. 335.

**Ammonium Picrate**, given for ague and malarial fevers. *Dose*, ⅛ to 1½ grains (0·008 to 0·1 Gm.) four or five times a day.—L. i./87,366; P.J. 1887, 812.

## ACIDUM PYROGALLICUM.

**Pyrogallic Acid.**—*Syn.* PYROGALLOL, I.C. Add., P.G.

*Dose.*—½ to 1½ grains (0·032 to 0·1 Gm.) in aqueous solution, or in pills with syrup— these must be freshly prepared, and kept from the light.

In very light small white crystals prepared from gallic or tannic acid by carefully heating. It is without odour, tastes insipid, producing a sensation of coolness on the tongue. Soluble in 2 parts of water, and in 10 parts of melted lard. It has great affinity for oxygen, and possesses antiseptic properties. It darkens the skin and hair, and is used in conjunction with a solution of silver nitrate for blackening the hair.

**Unguentum Acidi Pyrogallici, B.S.H.**

*Syn.* JARISCH'S OINTMENT. Pyrogallic Acid 60 grains, Lard 1 ounce. Mix. The acid will be in solution if the lard be melted. Used in cases of psoriasis.

**Unguentum Pyrogallol Compositum** (Unna).
Pyrogallol 5, Salicylic Acid 2, Ichthyol 5, Yellow Vaseline 88.

Pyrogallol, an internal astringent for hæmoptysis in doses of a grain every half hour also prescribed with ergot for the same purpose; does not cause vomiting nor derange the stomach. — Dub. Jour. Med. Sci. 1878,470; Pr. xxii.124.

Therapeutic uses and toxic effects. A patient suffering from universal psoriasis was poisoned by pyrogallic ointment applied to one-half of his body, whilst to the other half chrysophanic acid ointment was applied for comparison. — M.R. 1880,49; Pr. xxv.135; B.M.J. i./81,1007; ii./88,976; L. ii./81,891.

Proved useful in Hebra's wards in the treatment of psoriasis and other cutaneous affections. 10 per cent. ointment brushed in twice a day and parts covered with flannel.—Pr. xxiii.207,373; xxv.378; L. i./81,576.

Unna suggests the internal use of diluted nitrohydrochloric acid to obviate the toxic effects of applications of pyrogallic acid.—Ed. M.J., Oct. 1886, 377.

**Pyrogallol, Oxidised,** is recommended by him for leprosy, being less toxic.—Merck's Rep. 1897.

Two cases of poisoning by large quantity internally—recovery in two days—no treatment beyond nitrohydrochloric acid and olive oil internally.—L. ii./92,308.

**Eugallol,** Pyrogallol-Monacetate, a yellowish syrupy liquid, is claimed to be more powerful than Pyrogallol; mixed with an equal quantity of acetone it may be applied with a brush for psoriasis. **Lenigallol,** Pyrogallol-Triacetate in white powder, is much weaker, may be used with zinc paste in acute and chronic eczema, while **Saligallol,** Pyrogallol-Salicylate, a resinous looking substance, is soluble in acetone and chloroform, which solutions may be applied for psoriasis when mixed with Eugallol. Its solution dries like a varnish on the skin.—P.J. ii./99,176; i./00,616.

**Gallacetophenone.**

A derivative of pyrogallol, an atom of hydrogen being replaced by the acetyl group. Occurs in yellowish-brown powder or in needles, freely soluble in alcohol, ether, glycerin, and hot water, very slightly in cold. By addition of sodium acetate to a hot aqueous solution, about 4 per cent. may be retained on cooling.

Is slowly oxidised and relatively non-poisonous. A 10 per cent. ointment does not stain linen, and is said to act quickly in psoriasis and other non-syphilitic skin affections.—P.J. 1891,346; M.C. April 1892,68.

**allicin.**

The methyl-ester of gallic acid, in light, white, silky stals, slightly soluble in water. Used in the dry te in catarrhal eye affections.—P.J. 1895,1055.

**yrogallol-Bismuth**, *v.p.*108.

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## ACIDUM SALICYLICUM.

### Salicylic Acid (*Off.*).

*Dose.*—5 to 20 grains (**0·32 to 1·3 Gm.**) in cachets.

In colourless prismatic crystals, odourless, but its dust itating to the nostrils, taste sweetish. Melting point 6° to 157° C.; soluble 1 in 500 of cold water, 1 in 3 of % alcohol, 1 in 2 of ether, 1 in 120 of olive oil, 1 in 0 of castor oil, and 1 in 200 of glycerin; soluble also melted fats and vaseline; 20 grains of salicylic acid e rendered soluble in an ounce of water by the dition of 25 grains of borax; solutions of ammonium etate, potassium acetate, potassium citrate, and sodium osphate are also recommended for use as solvents, but ese substances only act by forming salicylates of the ses and setting free other acids. An aqueous solution the acid gives a deep violet colour with a trace of persalt of iron.

Salicylic acid may be prepared from salicin, from oils wintergreen or tea berry (*Gaultheria procumbens*), eet birch (*Betula lenta*), *Andromeda Leschnaultii* (an dian shrub), and other sources, but it is principally epared by the action of carbonic anhydride on phenol. e last is known in commerce as *artificial* salicylic d, in contradistinction to the *natural* acid, which is at obtained from the oils of the plants above-men- ned, known generically as oil of wintergreen, and nsisting principally of methyl salicylate.

For internal use this natural acid and its salts, being e from cresotic acids, are preferred. An artificial "**Salicylic Acid, Physiologically Pure,**" in large ismatic crystals, melting at 156·8°C., is also free om these impurities; but all risk of danger may be oided by the use of the natural acid and its salts, ich are still in general use.—B.M.J. ii./89,1315; /oo,364; L. i./oo,937.

Salicylic acid prevents fermentative and putrefactive ocesses and is generally an antiseptic. It is largely used for surgical dressings, especially in cancerous affections. It has the advantage over carbolic acid that it has no smell and causes less local irritation, and the disadvantage that it is not volatile, and therefore does not affect the surrounding atmosphere sufficiently. It has been given for various febrile conditions, but particularly for acute rheumatism; for the latter disease salicin is much preferred.

Internally, its effects closely resemble those of quinine, even to the production of ringing in the ears and transient deafness. Large doses alone act as a direct poison on the heart and respiration. It is only partly destroyed in its passage through the organism, and reappears in the urine as late as fifty hours after it has been taken, partly as such and partly as salicyluric acid. Its curative properties are hence due (1) to this resistance to decomposition; (2) to its harmlessness even in gramme doses; and probably (3) to the direct arrest of certain fermentative processes, which we must regard as the exciting cause of various diseases.—Binz.

Salicylic acid may be given as cachets or made into pills with glycerin of tragacanth, but the dose required being large, and being so insoluble in water, it is not often given in the pure state; it is generally given as the salt, sodium salicylate. Salts of salicylic acid are not compatible with spirits of nitrous ether or quinine sulphate.

Useful in small doses in the treatment of Menière's disease.—B.M.J. ii./77,477.

Salicylic acid, whilst of doubtful use in chronic rheumatism, is a rapid and radical remedy for the acute form; given in doses of 7½ to 15 grains.—B.M.J. i./76,569.

It has resemblances in action to quinine, and combats malarial poisoning.—Pr. xi., 449.

Dangers attending the use of salicylic acid in acute rheumatism.—L. i./80,327; i./90,1173,1299. Especially when used to combat hyper-pyrexia.—B.M.J. ii./93,1129. Harmful when the disease affects heart and viscera.—B.M.J.E. ii./96,450.

Maclagan on the failure of the Salicyl compounds in acute rheumatism due to insufficient doses.—L. ii./87, 345.

Hot strong solution of salicylic acid has been recommended as a useful application to acne.

Ringworm, ointment useful containing salicylic and rbolic acids, of each ½ drachm in 1 ounce.—L. ii./92, 2.

**myl Salicylate.**

Substitute for Methyl Salicylate, with much less odour. n-toxic, non-irritant when applied to the skin.— J. i./01,138.

**leum Gaultheriæ, I.C. Add.,** *v.p.*xxviii.

**psules of Oil of Gaultheria.**—10 minims in each. *Dose.*—1 three times a day or oftener.

The oil has similar properties to salicylic acid. 10 to minims every 3 or 4 hours in rheumatism and sciatica. Pr. xl. 466. With olive oil externally.—B.M.J. /89,347; L.ii./90,444; Th. Gaz. 1891,429; Ed.M.J. 91,268.

Death from poisoning by 1 ounce of this oil taken to ocure abortion.—Pr. xl.371.

Oil of Wintergreen recommended as an external plication for rheumatism.—L.i./97,1485; B.M.J.E. /97,79; and for chorea.—B.M.J.E. i./99,8.

**lethyl Salicylas,** Artificial (or Synthetic) Oil of Wintergreen, U.S.

A colourless liquid, with odour like above oil, is used r similar purposes. Spread on the skin and covered impermeable tissue is quickly absorbed, and is said be less irritating than the natural oil.—B.M.J. '96,1118; L. i./96,941 L. ii./96,703; ii./97,52; M.J.E. ii./96,270.

As an antiseptic dressing in furunculous ulcers.— J. i./00,183.

Applied externally for acute and chronic rheumatism, only slightly toxic.—B.M.J.E. i./98,103.

Recommended for orchitis and mumps.—B.M.J.E. '99,63.

For orchitis in form of ointment.—P.J. ii./00,541.

**ranular Effervescent Salicylic Acid** contains 5 grains in 60 grains. *Dose.*—1 drachm (4 Gm.).

**iquor Acidi Salicylici.**

Boiling distilled water 1000 parts, Salicylic Acid 1½ rts. Useful in preparing solutions of alkaloidal lts (*v.p.*184), and may be employed as a stable lvent for other salts prone to develop fungi in solution, t if used of this strength (nearly saturated) it proves ry irritating for ophthalmic use.

**Pulvis Salicylicus cum Talco, P.G.**

Salicylic Acid 3, Wheaten Starch 10, Talc 87.

Mix to a fine powder. Is used to correct the fetid or excessive perspiration of the feet.

**Salicylated Camphor,** *v.p* 125.

**Salicylic Collodion,** *v.p.*199.

**Salicylic Cream.**

Salicylic Acid, in powder, 2, Carbolic Acid 1, Glycerin 10; mix. G.H. has Salicylic Acid 1, Glycerin 9.

Used as pigment when the skin is irritated by the discharge from wounds, &c., under antiseptic dressings.

**Salicylic Plaster Mulls,** *v.p.*528.

Contain respectively 10 and 25 grammes of acid in $\frac{1}{5}$ square metre; used successfully to remove thickened epidermis.—L. ii./83,951; B.M.J. ii./83,1071; B.M.J. i./84,602. Others are combined with about 40 grammes of **Creosote,** or **Extract of Cannabis Indica,** 5 grammes.—L.ii./86, 574; B.M.J. ii./87,447,459,472.

**Collemplastrum Adhesivum. P.Aus.Add.**

Resin Oil 150, Copaiba 100, Yellow Resin 100, Anhydrous Wool Fat 50, Yellow Wax 30; these melted together and strained, dissolve in Ether 1200. Add to the solution Purified India Rubber sliced 250, and dissolve by frequent agitation. To this add Orris Root in powder 220, Sandarach in powder 50, previously mixed with Ether 400. Spread equally on a linen fabric.

**Collemplastrum Salicylicum. P.Aus.Add.**

Adhesive Plaster Mass 250, Salicylic Acid 10, rub with Petroleum Ether 50. Spread the well-mixed mass on a linen fabric.

**Salicylic Wool.**

Cotton wool impregnated with 4 per cent. and 10 per cent. of salicylic acid.

**Sebum Salicylicum. P.Aus.Add.**

Suet 100, Benzoin 10; heat on a water bath 1 hour; strain; add Salicylic Acid 2; dissolve and pour into moulds.

**Unguentum Acidi Salicylici** (*Off.*).

Salicylic acid, in powder, 1, Paraffin Ointment, white, 49.

Useful in eczema, acne, ringworm and cancer of the breast.

**Aseptic Wax.** (Squire.)

Beeswax 87; Almond Oil 12; Salicylic Acid 1. Heat o 150°C. Keep in sterilised bottles containing sufficient Mercuric Chloride Solution to cover the wax.

For arresting hæmorrhage from cranial bones.—B.M.J. i./92,1165.

**Iodo- and Di-Iodo-Salicylic Acids,** *v.p.*297.

**Ammonii Salicylas.** *Dose.*—5 to 30 grains (0·32 to 2 Gm.).

In hard colourless crystals, or minute crystalline powder, very soluble in water.

**Bismuthi Salicylas,** *v.p.*105.

**Calcii Salicylas.**

*Dose.*—2 to 20 grains (0·13 to 1·3 Gm.). A white rystalline powder, odourless, with sweetish taste, slightly oluble in water, more so if containing dilute acids. s useful, alone or with bismuth salicylate, in diarrhœa nd gastro-enteritis.—P.J. 1891,427.

**Ferri Salicylas.** *Dose.*—3 to 10 grains (0·2 to 0·65 Gm.), in pills. A purplish brown powder, lightly soluble in water; given as an anti-arthritic tonic and for tonsillitis.

Found useful, on account of its antiseptic and astrinent properties and its slight solubility as an application o foul wounds with a tendency to bleeding.—Edin. Med. Jour. 1877,707.

**Potassii Salicylas.** *Dose.*—5 to 30 grains (0·32 to 2 Gm.). A white crystalline powder, very oluble in water.

**Quininæ Salicylas,** *v.p.*415.

**Sodii Salicylas** (*Off.*).

*Dose.*—10 to 30 grains (0·65 to 2 Gm.) in water—he taste may be disguised by the addition of liquid xtract of liquorice, or syrup of ginger—or in cachets.

Tablets, 3 and 5 grains (0·2 and 0·32 Gm.).

In white scales or definite shining silky tabular rystals, soluble in its own weight of water, soluble lso in alcohol. It possesses an unpleasant sweetish aste, but it is more pleasant to take and more rapidly bsorbed than the free acid. N.B.—5 of salt = 4 of acid.

Sodium salicylate is not compatible with free ammonia, ammonium carbonate, or aromatic spirit of ammonia; if any of these be added to its aqueous solution, the mixture in a short time turns brown. Mineral and many organic acids cause separation of salicylic acid.

Its solution forms a useful antiseptic wash for the bladder.

Solubility in water of caffeine, theobromine, exalgin, phenol, menthol, creosote, guaiacol, and thymol is considerably increased by sodium salicylate.

Sodium salicylate 1, water 1, recommended as a clearing agent for vegetable sections. Alters cell membranes less than chloral, and mixes with oil of cloves.

It has in the system no special solvent action on sodium bi-urate, and it leads to increased formation of uric acid in the kidneys.—L. i./98,1609.

**Effervescent Sodium Salicylate.** 6 grains in a drachm. *Dose.*—1 drachm (4 **Gm.**) or more.

In acute tonsillitis, 10 grains every three hours relieve the distressing symptoms.—B.M.J. i./87,1253 ; Pr. xl. 260,351.

Large doses of the salicylates relieve neuralgia.—Pr. xxxix. 49. Useful in diarrhœa.—B.M.J. ii./88,521.

Salicylate of sodium useful in vertigo with auditory nerve symptoms.—L. i./90,181. Also in chorea. Pr. xlv.297 ; L. ii./92,19,87.

Experimental research on comparative action of natural and artificial salicylates of sodium; artificial condemned, but impure used.—B.M.J.ii./89,1208,1315 ; i./90,59.

Salicylate of sodium of great use in influenza ; the best diaphoretic.—L. i./90,167,187,267 : i./92,518.

Sodium salicylate of service in diabetes. Reduced quantity of urine and removed all but a trace of sugar. Pr. xlvii.91 ; B.M.J. i./01,760.

Sodium salicylate, 3 grs. three times a day, successful in Menière's disease.—B.M.J. ii./93,579.

Has a sensible action, when given internally, upon psoriasis.—L. i./95,1421 ; P.J. ii./95,51.

Purpura and gangrene following use of three doses of 20 grains sodium salicylate.—L. ii./96,1478.

Is often depressing if made from Synthetic Acid, that from Oil of Wintergreen not so.—B.M.J. i./00,364.

**Sodii Di-thio-salicylas.** *Syn.* DITHION.

*Dose.*—3 grains (0·2 **Gm.**) morning and evening, or repeated doses during an hour at night.

The sodium salt of an acid formed by the action of sulphur chloride on salicylic acid; is a greyish or yellowish-white powder, soluble 1 in 1 of water.

It promptly reduces temperature in articular and gonorrhœal rheumatism; acts more powerfully in small doses than salicylic acid, and is free from its objectionable sequelæ.—L. ii./89,347; P.J. 1889,1049; Y.B. 1890,312.

Foot and mouth disease treated successfully with lithio-salicylate of sodium; 1 to 2 oz. given internally daily, and a 2½ to 5 per cent. solution used to wash the mouths, hoofs, and udders, of the affected animals.—L. i./92,494.

**Strontii Salicylas,** *v.p.*442.

**Aspirin.** Salicylo-Acetic Acid.

*Dose.*—10 to 15 grains in cachets or suspended in water.

A white microcrystalline powder, soluble about 1 in 100 of water. Has anti-rheumatic properties, and is used as a substitute for Salicylic Acid and its salts. Does not irritate the mucous membrane of the stomach, and is to be preferred in heart and ear complaints. Is quick in action in acute affections of the joints and in gout.—L. ii./99,219; B.M.J.E. ii./99,3,68; P.J. ii./99,135; P.J. ii./00,734,775.

In acute and chronic rheumatism and for pleurisy.—B.M.J.E. ii./99,96.

**Salacetol.**

*Dose.*—10 to 30 grains (0·65 to 2 Gm.), in cachets or suspended.

Salicylic ester of acetone alcohol, an artificial glucoside of salicylic acid, in light shining micaceous crystals, very slightly soluble in water, more so in alcohol, and freely in caustic alkaline solutions, which decompose it with formation of salicylates.

Is decomposed very quickly after administration, yielding salicylic acid, and is free from the elimination of phenol, which constitutes the danger of salol. Has been used successfully in choleraic diarrhœa and rheumatism as an intestinal antiseptic, and specially for disinfecting the urinary passages. For diarrhœa, recommended to be given suspended in castor oil, before breakfast.—P.J. 1893,181; B.M.J.E. ii./93,79.

As a local application is un-irritating and never poisonous.—B.M.J.E., i./96, 92; P.J., ii./96, 373.

**Salicinum, Salicin** (*Off.*).

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.) in aqueous solution, taste may be covered with liquid extract of liquorice, or small dose in pill with glycerin of tragacanth.

A glucoside in colourless shining trimetric tabular crystals, without odour, taste moderately bitter. Soluble 1 in 28 parts of cold water, 1 in 50 of alcohol, but not soluble in ether. Obtained commercially from willow bark, contained also in poplar bark and in flower buds of meadow sweet.

Useful in psoriasis, internally in 15 grain doses.

Salicin is used in small doses, often combined with valerianates and compound rhubarb pill, as a mild tonic.

**Tablets**, 5 grains (0.32 Gm.). *Dose.*—1 to 4.

In large doses it has a specific action over acute rheumatism. It is not so depressing in its action as salicylic acid. It is not adapted for use as an external antiseptic. Is used for ague. L. i./76,342,383; ii./76,601,677; i./79,875; ii./79,79; B.M.J. i./81,229.

Ten grains of salicin in draught with carbonate of ammonium checks pyrexia of phthisis.—B.M.J. i./91,684.

Salicin said to cure influenza more rapidly than any other mode of treatment, and also to act as a prophylactic and lessen infectiousness.—L. ii./91,121; i./92,327; P.J.1891,83; Pr.xlvii.298; Th. Gaz. 1892,4.

**Salol. Phenyl Salicylate** (*Off.*). P.G.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.) in cachets or suspended in milk.

**Tablets**, 5 grains (0·32 Gm.). *Dose.*—1 to 3.

Phenyl Ether of Salicylic Acid.—It is in small white crystals, with a slight aromatic wintergreen odour; is almost tasteless and insoluble in water, but soluble 1 in 10 of alcohol, 2 in 1 of ether, 1 in 12 of liquid paraffin, in fixed oils, and a trace in glycerin. It possesses antiseptic and antipyretic properties, and internally can be used advantageously in place of sodium salicylate, where this is badly tolerated. In the system it splits up into its component parts, both being found in the urine, which becomes very dark.—P.J. 1886, 1005; Th. Gaz. 1888, 692; L. ii./86,31.

Salol is not easily suspended in water, but is best taken as—

**Emulsio Salol.** *Dose.*—½ to 1 ounce.

Salol 20 grains, Liquid Paraffin 1 drachm, heat to lissolve and while still hot add Gum Acacia in powder 30 grains; mix and add with vigorous trituration Distilled Water *q.s.* to 1 ounce.

Useful in sciatica; 8 grains in the evening and 16 grains at bedtime induced sleep.—L. ii./87,880.

Its chief value is in acute rheumatism.—L. i./88,867. Is decidedly efficacious, but owes its activity to the salicylic acid it contains.—L. i./88,1072.

Summer diarrhœa, successful in.—Pr. xl.465. Also diarrhœa of children, Pr. xliv.60; lii.290; B.M.J.E. ii./90,38; M.C. Jan 94,237. Useful in the tropics.

Earache and neuralgia of the eyes relieved by ten-grain doses.—Ed.M.J.1888,953.

Five-grain doses used in typhoid with good result. —Pr. xl.373; xlvi,53; Th. Gaz. 1891,6.

On account of slow excretion, should not be given in too large doses; death (4 days after) from 120 grains taken within 8 hours. Administration should be accompanied by sodium sulphate. Large proportion of phenol it contains renders it dangerous for unrestricted use. Contra-indicated in acute or chronic renal disease. Pr. xlv.12,99; M.C. Aug.93,342.

Renders urine aseptic, recommended for vesical catarrh, gonorrhœa, and operations on urinary organs. --L. i./90.644; Ed.M.J.1890,1080,387; Pr. xlviii.427.

Salol is decomposed by all parts of the digestive tract except the stomach.—Report on Salol as a diagnostic agent.—B.M.J. i./90,1400; Pr. xlv.442; P.J. 1887, 527,Jan. 1.

Useful in pharyngitis and all forms of sore throat; relieves pain and difficulty of swallowing, and lowers temperature.—B.M.J. i./90,1040.

Salol the best intestinal antiseptic, little irritating; Bismuth Salicylate almost on same level; best form of administration;—Salol, Bismuth Salicylate, Sod. Bicarb. 5 grains each, in cachets.—Th. Gaz. 1891,653.

Doses of 4 grains useful in dysentery.—L. i./92,658.

**Salol Coating for Pills.**

To act in intestines only. Salol 4, Tannin 1, Ether 20. Varnish several times until layer is sufficiently thick.—P.J. 1891,348. Or better as follows:—

Salol 2, Shellac 3, Absolute Alcohol and Ether, of each 3; forms a pill coating insoluble in the acid gastric juice, but soluble in the alkaline fluid of the intestine; suitable for purgatives to act on the bowels, and for administering antiseptic remedies in cases of eczema and urticaria, in which it is thought these are caused by intoxication from ptomaines formed in the intestinal canal.

**Collodium Salol**, Salol Collodion. Salol 4, Ether 4, Collodion 30. Gives rapid relief in pain of acute rheumatism.—Th. Gaz. 1890,575; Pr. xlv.466.

**Salol Catheter Oil.** Salol 1, Castor Oil and Almond Oil, of each 15. Does not dissolve the varnish of catheters (G. Buckston Browne).

**Salol cum Camphora**, Salol Camphor.

Salol 3, Camphor 2, heated together combine to form a viscid liquid, which has been used as an antiseptic in place of iodoform.—P.J.1889,862,62. Salol Camphor, prepared with 10 per cent. only of camphor, quickly crystallizes, and when powdered is suitable for application, where liquid not available.—P.J. 1893,262.

Useful in suppuration of the middle ear; is neither painful nor irritating.—M.C. Nov.1890,158; Pr.xlvi.375.

**Unguentum Salol cum Cocaina.**

Salol 2, Cocaine Hydrochloride 1, Ceratum Petrolei 16. Useful for burns.

**Agathin.** SALICYL-α-METHYL-PHENYL-HYDRAZONE.

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.) in cachets.

Recommended as an anodyne in neuralgia, rheumatism, and sciatica, but is often unreliable in effect and slow in action.—P.J. 1892,86; L. i./93,1082; B.M.J. i./93,702; ii./98,1054,1056.

**Salophen.** ACETYL-PARA-AMIDO-PHENYL-SALICYLIC-ESTER. *Dose.*—10 to 30 grains (0·65 to 2 Gm.) in cachets.

In light, white crystalline scales, tasteless and inodorous; soluble in alcohol, ether, and alkalis, almost insoluble in water. It contains 51 per cent. of salicylic acid, and was introduced to replace salol on account of the ill effects thought to result from the elimination of phenol from the latter. It is unaffected by gastric juice, but decomposed by pancreatic ferment. It has a slight antifebrile effect, and quickly removed pain and swelling in acute rheumatism, but does not rotect against relapses.—L. i./92,116,547,766; P.J. 1892,612; B.M.J.E. i./92,24; ii./92,23; ii./93,27; B.M.J. ii./98,1056. Also in chorea.—P.J. i./96,176.

For neuralgia and pleurodynia. B.M.J.E. i./93,99.

Used also in influenza, tonsillitis, cutaneous affections, nd many other diseases.—Therap. 1899, 328.

A useful antipyretic and antineuralgic, especially for hildren.—B.M.J.E. i./95,16.

Often of use internally in pruritus.—B.M.J.E. /97,44; P.J. i./97,426.

**Salicylamide.**

*Dose.*—2 to 6 grains (0·13 to 0·4 Gm.), in cachets.

The amide of salicylic acid, produced by action of oncentrated ammonia on oil of gaultheria. In small white acicular crystals; soluble 1 in 250 of water, eadily in alcohol, chloroform, and ether. Has no aste, is more soluble and more prompt than salicylic cid; acts in smaller doses, and has greater analgesic roperties.—Th. Gaz. 1891, 686; P.J. 1891,346.

**Acidum Cresoticum.—Para-Cresotic Acid.**

Is a homologue of salicylic acid, obtained from resol. In white needles, melting at 304° F., easily oluble in alcohol, chloroform and ether, almost nsoluble in water.

Experimental research on its physiology. Has a poisonous action of itself, intensified by mixture with rtho-cresotic acid, and still more by salicylic acid in addition.—B.M.J. i./91,695.

As an antipyretic is inferior to salicylic acid, but better tolerated by the digestion, and does not produce the congestion sometimes caused by salicylic acid.—P.J. 1892,694; M.C. May 1892,132.

**Sodii Cresotas.—Sodium Paracresotate.**

*Dose.*—2 to 20 grains (0·13 to 1·3 Gm.).

A white microcrystalline powder, slightly soluble in water. Is less powerful than sodium salicylate, but is said to be free from the unpleasant results of the latter. Useful as an antipyretic, in rheumatism and pneumonia, also as an intestinal antiseptic in gastro-intestinal catarrh of children.—B.M.J.E. i./92,48.

**Cresol.**—*Syn.* ACIDUM CRESYLICUM, *v.p.*9.

**Cresol Salicylas.—Para-Cresol Salicylate.**

*Syn.* CRESALOL.

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.)

The para-phenylic ether of cresylic acid, in white granular crystals with the odour and antiseptic properties of salol. Insoluble in water, freely soluble in alcohol. Useful in acute rheumatism, and suggested also for cholera.—L. i./89,305; P.J.1889,701.

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# ACIDUM SULPHURICUM.

**Sulphuric Acid** (*Off.*).—*Syn.* OIL OF VITRIOL.

*Dose.*—1 to 2 minims (0·06 to 0·12 Cc.).

Has Sp. Gr. 1·843, and contains 98 per cent. by weight of hydrogen sulphate.

This acid may be considered the key which unlocks the treasures of chemical science, as it opens the way to the production of the other mineral acids, is used in the first step of the Leblanc alkali process and the manufacture of bleaching powder, and through these, by endless ramifications, its action and influence are extended to all manufactured chemicals. Lately contamination by arsenical impurity has brought it into evil repute in the production both of food and drugs. First, it caused Effervescent Sodium Phosphate to come under the ban of the Adulteration Acts, and more recently the national beverage Beer has met with a similar fate. The acid, unless it be made from sulphur, arsenic-free as formerly, is apt to contain arsenic at times in quantity as a dangerous impurity, because it is now mostly made for commercial purposes from pyrites. If so, it is difficult to free it from all traces of arsenic by purification, and through the refinement of chemical testing it is now hazardous to guarantee chemical substances absolutely free from arsenic. The limit of impurity is difficult to fix, as traces of arsenic are found even in the materials of chemical apparatus and cooking utensils.

**Acidum Sulphuricum Aromaticum** (*Off.*).
*Syn.* ELIXIR OF VITRIOL. *Dose.*—5 to 20 minims (0·3 to 1·2 Cc.).

Sulphuric Acid 3, Alcohol (90 per cent.) 29½, Spirit of Cinnamon ½, Tincture of Ginger 10.

This is a weak form of the old Mynsicht's Elixir Vitrioli—in this ethyl-sulphuric acid is formed on keeping, but not much while making. The preparation would be improved by carefully heating the mixture of acid and alcohol to encourage the formation of the vinous acid.

**Elixir Acidum.** *Syn.* LIQUOR ACIDUS HALLERI. Ph.D.; F.Ital. *Dose.*—2 to 8 minims (0·12 to 0·48 Cc.).

Strong Sulphuric Acid and Alcohol, of each equal weights. Mix carefully and gradually.

Austrian P. has Liquor Acidus Halleri, P.G. Mixtura lphurica Acida, and P. Helv. Mixtura Sulphurico-acida au de Rabel) 1 to 3 of alcohol (weight); Codex, Acide lfurique Alcoolisé 100 to 300 (weight), and red poppy tals 4; and T.H., Acidum Sulphuricum Alcoholitum 15 to 105, and oil of sage 1 (measure). In all ese much of the sulphuric acid is in the form of ethyllphuric acid (sulphovinic acid), which is more agreele in taste than diluted sulphuric acid. If mixed with eetened water, they form agreeable cooling drinks, eful in checking excessive perspiration.

**cidum Sulphuricum Dilutum.** (*Off.*). Sp. Gr. 1·094.

*Dose.*—5 to 20 minims (0·3 to 1·2 Cc.).

Contains in 6 fluid drachms half a molecular weight in ains of hydrogen sulphate.

**cidum Sulphuricum Fumans.** **Fuming Sulphuric Acid.** *Syn.* NORDHAUSEN SULPHURIC ACID.

Sp. Gr. about 1·9. Contains some sulphuric anhyide dissolved in sulphuric acid. Gives off white acid nes on exposure to the air, especially when warmed. used as a caustic in cases of cancer, preferably as

**ichel's Paste.** Asbestos, in fine powder, 1; Nordhausen Sulphuric Acid, 3. Should be made immediately before use.—L. ii./90,864.

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## ACIDUM SULPHUROSUM.

### Sulphurous Acid (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

A colourless liquid, having a pungent sulphurous odour, d containing 5 per cent. of sulphurous anhydride. . Gr. 1·025. It is liable to oxidise into sulphuric d if long kept, and when used for throat affections presence of more than traces of sulphuric acid is jectionable. It may be freed from this by addition of rium sulphite as long as a precipitate is thrown down, l decanted from sediment (barium sulphate).

The gas, liquefied by compression, is sold in syphons l tubes for medicinal and disinfectant purposes.

Sulphurous acid is a strong reducing agent. For unple, many colours are bleached by the sulphurous d combining with the oxygen of any water present, hydrogen being liberated, which latter forms colourless compounds with the colours. These compounds may then be removed by washing. Further, sulphurous acid is used as an antiseptic and disinfectant. It destroys fungi and putrefaction-bacteria, thus preventing fermentation and decomposition.

It is used as a gas for disinfecting rooms in which patients suffering from infectious fevers have been nursed. It may be produced by igniting sulphur (1 pound to each 1,000 cubic feet), placed in a strong earthen vessel, which for safety should be supported over a bucket of water, on a pair of tongs laid across it. After the chimney and all crevices have been closed, and paper pasted over apertures in the windows, &c., the sulphur may be ignited by being moistened with methylated spirit and lighted with a match; the sulphur catches readily. The door should then be shut, pasted up with paper and left for six hours. The air should be rendered unfit for respiration, metals exposed in the room should be greased, and coloured materials as much as possible removed, as the gas possesses bleaching properties on some substances.

Sulphurous acid, the solution, is applied externally as a lotion—one part to two or more of water and sometimes a little glycerin added—for parasitic affections such as chloasma, ringworm, pruritus, and thrush, with very good results. Undiluted it is sprayed into the throat for tonsillitis and asthma, or used as an inhalation, a teaspoonful to a pint of cold water. Internally, for gastric fermentation accompanied by sarcinæ it is given with success in its combinations.

Recommended as a prophylactic to cholera, as workers in manufactures using it are not attacked; half-drachm doses frequently well diluted.—L. ii./73,839; ii. 93,289. And as a rectal injection, a 1 or 2 per cent. solution of the gas.—B.M.J. i./93,12.

**Bismuthi Sulphis,** *v.p.*106.

**Magnesii Sulphis, Magnesium Sulphite.**

*Dose.*—10 to 30 grains (0·65 to 2 Gm.).

Valuable in diphtheria given internally, and used as gargle and insufflation.—L. i./87,404; ii. 93,1166,1291, 1362,1422,1550. Action slight.—L. i./95,1082.

**Tablets** contain 5 grains.

**odii Hyposulphis.**—*Syn.* SODIUM THIOSULPHATE (*Off.*).

*Dose.*—10 to 60 grains (0·65 to 4 Gm.).

This is used as a lotion, 1 in 10 for chloasma, gworm, &c. It may be made to evolve sulphurous d gas as in the following lotion:—

Sodium Hyposulphite 6, Diluted Sulphuric Acid 1, ater 32.

Excellent results, in flatulent dyspepsia with excessive mpanites, from 4 grains twice daily 2 hours after als.—Prov. Med. Jour., April, 1891.

## ACIDUM TANNICUM (*Off.*).

*Syn.* TANNIN.

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

Tannic Acid is freely but slowly soluble in all propor- ons in water and glycerin, less so in alcohol, and in ether, which, if both are pure, it is almost insoluble.

**lycerinum Acidi Tannici,** *v.p.*252.

**lycerinum Aluminis et Acidi Tannici,** *v.p.*253.

Rectal injection of tannin 30 grains in a quart of hot ater, with or without opium, recommended in cholera. L. i. 85,352; ii. 92,683. Also in dysentery, combined ith boric acid.—B.M.J.E. ii./90,1; ii. 92,84.

Erysipelas,—Tannin 1, Camphor 1, Ether 8, painted , useful.—B.M.J.E. ii./92,31.

**onthin.** *Dose.*—3 to 15 grains (0·2 to 1 Gm.) up to 150 grains a day.

A compound of Tannin and Albumen, keratinised, ayish-brown, odourless, and tasteless powder, insoluble water, partly soluble in alcohol and in alkaline lution. An intestinal astringent.—Therap. 1900,205 specially useful in infantile diarrhœa.—Therap. 1901,10.

**annalbin.**

*Dose.*—8 to 15 grains (0·52 to 1 Gr.).

A compound of tannin with albumen, in pale brown soluble tasteless powder, containing about 50 per nt. of tannin. An intestinal disinfectant soluble in testines but unaffected by stomach; recommended in iarrhœa.—P.J. i./96,342; B.M.J.E. ii/96,8.

**annigen.** DI-ACETYL-TANNIN.

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.), in cachet, A greyish white, tasteless, inodorous powder, insoluble in water. Recommended in chronic diarrhœa. Is not dissolved in the stomach, but only on reaching the intestine.—P.J. 1894,252; i./97,58.

Useful in enteritis.—L. i./95,1004.

Infantile diarrhœa.—B.M.J.E. i./96,8,68; P.J. ii./96,28.

Tannigen and tannalbin appear in the urine as gallic acid.—M.C. Mar.97,448. In gastro-enteric affections.—Therap. 1900,8.

Tannigen with Calomel and with Somatose in dysentery.—P.J. i./00,57.

**Tanocol.** *Dose.*—15 grains (1 Gm.).

A compound of tannin and gelatine, in the form of greyish-white powder. Used as an intestinal astringent.—Therap. 1899, 125. An effectual astringent for intestinal complaints.—P.J. i./99, 538. Is soluble in alkaline fluids which decompose it, liberating tannic acid.—B. and C.D. 1899, 745.

**Tannoform.**

A compound of tannin with formic aldehyde in light pale reddish-white powder insoluble in water, soluble in alcohol and alkalis. Recommended as an unirritating antiseptic in ointment or dusting powder alone or with 1 to 4 parts of starch, for bedsores, hyperidrosis, pruritus, eczema, and piles. Useful in diarrhœa and enteritis, and for tender feet.—P.J. ii./96,394; B.M.J.E. ii./96,47.

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## ACONITINA (*Off.*).

## Aconitine.

*Dose.*—$\frac{1}{240}$ carefully increased to $\frac{1}{60}$ grain (0·00027 to 0·0011 Gm.).

An alkaloid obtained from *Aconitum napellus.* In colourless, rhombic, prismatic crystals, freely soluble in dilute acids, alcohol and chloroform, less readily soluble in ether, and almost insoluble in water and petroleum ether; melts at 189° to 190° C.; yields acetic acid at a slightly higher temperature, has the composition of acetylbenzoylaconine, and in weak acetic solution yields a red crystalline precipitate with potassium permanganate.

The root of *A. napellus* yields about 0·03 per cent. of crystallized aconitine—P.J. 1876,256.

The crystallized alkaloid from this source only being official, it alone should be dispensed when aconitine rdered. Aconine and benzoylaconine (picraconitine soaconitine) have comparatively little action. Benlaconine is, to some extent, an antidote to the action conitine on the heart, but not on the respiration, reas aconine possesses complete physiological gonism to aconitine.—Proc. Royal Soc., lxii., 338, & D. i./98,313.

harmacology of the alkaloids of Aconite. Aconitine bout 200 times as toxic as benzoylaconine, and 2,000 es that of aconine.—B.M.J. ii./98,1041.

**eudaconitine,** a crystalline alkaloid obtained from Indian aconite, *A. ferox*, melts at 201° C., and has the constitution of acetyl-veratrylaconine.—P.J. ii./95,54. Must not be confused with true Aconitine, as both are now well defined and very poisonous.

conitine is a depressent, calmative, and diaphoretic. ernally the ointment of aconitine, and aconite liniment ited on either in a pure condition or mixed with adonna or chloroform liniment, immediately relieve ralgia, sciatica, and many forms of rheumatism. en effectual they cause a sensation of tingling, and sequent numbness of the parts to which they are lied. Internally, tincture of aconite is given to con- inflammation and to subdue the accompanying fever: great success, especially if given in the early stage, he disease, in acute sore throat, tonsillitis, catarrh, latina, gonorrhœa, erysipelas, and other febrile tions, in doses of one minim every hour, it reduces e and temperature and causes free diaphoresis.

conite is useful in all forms of neuralgia, some ases of the heart, rheumatism, and erysipelas.

conitine may be administered in the form of pill, fully rubbed down with a little milk sugar, and le into a mass with glycerin of tragacanth.

**onitum Ferox, A. Heterophyllum** and **A. Fischeri,** *v.pp.*174,175.

### *Preparations.*

**ectio Aconitinæ Hypodermica**

conitine (Crystals) 1 grain, Diluted Sulphuric Acid Distilled Water to ½ ounce. Dilute one drop of the acid with about one drachm of water, and carefully add drop by drop to the aconitine, avoiding excess, till it is dissolved, then make up the measure to half an ounce with water. *Dose.*—1 or 2 minims.

**Oleatum Aconitinæ.**

Aconitine 2, Oleic Acid 100. Dissolve; may be perfumed—is readily absorbed when painted on for neuralgic affections.

**Unguentum Aconitinæ** (*Off.*).

Aconitine 1, Oleic Acid (by weight) 8, (1 grain=2 drops); heat gently to dissolve, and add Lard 41. Mix thoroughly. Should be freshly prepared. A piece the size of a bean is gently rubbed in for facial neuralgia, care being taken not to apply where the skin is broken, or to touch the mucous membranes.

## *Other Preparations of Aconite.*

**Chloroformum Aconiti, B.P.C.**

| | | |
|---|---|---|
| Aconite Root, bruised ... | ... | 20 ounces. |
| Strong Solution of Ammonia | ... | 1½ ,, |
| Distilled Water ... | ... ... | 20 ,, |
| Chloroform ... | ... ... | *q.s.* |

Macerate the aconite with the ammonia and water, previously mixed, for 4 hours, dry and reduce to No. 40 powder. Macerate for 24 hours with 20 ounces of chloroform in a percolator provided with a tap, then percolate slowly, adding more chloroform until 30 ounces are obtained. Useful application for neuralgia, mixes with oils and liniments.

**Emplastrum Aconiti** in rubber combination, sheets 7 in. by 5 in., rolls 7 in. by 36 in.

**Emplastrum Aconiti et Belladonnæ** is also prepared in sheets and rolls as above.

**Extractum Aconiti** (B.P. 1885). *Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.) (from fresh leaves and flowering tops).

**Extractum Aconiti Radicis Alcoholicum.**

**Alcoholic Extract of Aconite Root** (Fleming).

*Dose.*—$\frac{1}{10}$ to ⅓ grain (0·0065 to 0·02 Gm.).

Must be carefully distinguished from the preceding.

**Linimentum Aconiti** (*Off.*).

1½ = 1 of English root; useful in neuralgia.

Death following 2-drachm dose of linimentum aconiti in a drunken adult.—B.M.J. ii./86,680. Fatal case of

soning by 9 minims of same = about $\frac{1}{30}$ grain
nitine.—B.M.J. ii./91,994; M.C. Feb. 1892,319.

Aconite poisoning successfully treated by digitalis,
minims tincture hypodermically in course of 4 hours.
B.M.J.E. ii./92,56.

**inimentum Aconiti Compositum, G.H.**

**A. B. C. Liniment.**

Aconite Liniment, Belladonna Liniment, Chloroform
niment, equal parts.

Poisoning by A. B. C. Liniment.—B.M.J. i/96,399.

**astillus Aconiti,** *v.p* 255.

**illula Aconiti.** Root, in powder, ⅛ grain in each
*Dose.*—1 hourly = about 2 minims of tincture.

**inctura Aconiti** (*Off.*).

1 of dried English root in 20 of 70% alcohol.

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.). As a
rifuge 2 minims every 10 minutes or quarter of an
ur, for an hour, then repeat dose every hour till skin
s well and temperature is reduced.

**Fleming's** and **Turnbull's Tinctures** of **Aconite**
about twelve times the strength of the above. They are
netimes ordered for external use, and were given in
ses of 1 to 5 minims.

## ÆTHER.

**Ether** (*Off.*).—*Syn.* ÆTHER SULPHURICUS; ETHYL
IDE.

*Dose.*—40 to 60 minims (2·4 to 3·5 Cc.), or 10 to
minims (0·6 to 1·8 Cc.) repeated.

For general anæsthesia ether produces less depres-
n on the heart than either ethidene dichloride or
loroform, but its use is unpleasant both to the patient
d to the operators. Its suffocating action on the
tient, if suffering from any lung or bronchial affection,
very irritating, and has proved fatal. Care must be
ken not to employ it near a light, as its vapour is
avy and very inflammable, and as an anæsthetic it has
be used freely.

Revelations during anæsthesia.—L. ii./81,9.

Hypodermically, 20 to 60 minims a successful re-
rative in typhoid fever.—L. ii./83,813,348,395.

Report on Ether drinking.—B.M.J. ii./90,885.

Death during ether anæsthesia; not from asphyxia.—

L. ii./90,584, 587. Other cases: B.M.J. i. 91,82, 1017; ii./91,706,757; i./92,437; ii. 93,697,1444; ii./96,516; L. i./92,442; i./96,639; i./98,249; i./99,606; i./00,45; Pr. liii.367; B.M.J. i./01,574.

Ether anæsthesia much safer than chloroform, as 3½ to 1.—M.C. Dec.1892,150.

Administration of nitrous oxide preceding ether recommended.—B.M.J.ii./92,938. Death under this treatment.—L.i./96,179; i./97,1039.

Ether recommended as a menstruum and vehicle for skin medication, on account of solvent action on sebaceous secretion. See Ethereal Tinctures of Belladonna (*p.*102), Capsicum (*p.*130), Iodine (*p.*302), and Menthol (*p.*328). L. i./90,1066; ii./90,67; i./93,997; P.J. 1890,84; Pr. xlv.218; Th. Gaz. 1890,554.

Pneumonia may follow its inhalation.—L. i./98,858.

Report on 15 deaths under ether anæsthesia during 1897.—B.M.J. i./98,1358.

Ether sprayed over the spleen reduces its enlargement. —B.M.J.E. i./98,100.

**Glass Capsules** contain half a drachm in each for hypodermic injection—are convenient to carry in the emergency bag.

## *Commercial Varieties in General Use.*

### (1) *From pure Alcohol.*

**Æther** (*Off.*) Sp. Gr. 0·735.

This, the ordinary medicinal ether, contains not less than 92 per cent., by volume, of ethyl oxide. It is sometimes inhaled for producing general anæsthesia, but is not so suitable for this purpose as

**Æther Purificatus**, Purified Ether (*Off.*). Sp. Gr. not exceeding 0·722 and not below 0·720.

Should assume no blue colour on standing, when mixed with half its volume of solution of potassium bichromate acidulated with sulphuric acid, showing absence of hydrogen peroxide; nor should it be coloured by potassium hydroxide, showing absence of aldehyde. On evaporation leaves no residue or abnormal odour.

This is best adapted for producing general anæsthesia. It may also be used for local anæsthesia.

**Æther pro narcosi**, P.G. iv. Sp. Gr. 0·720.

Must be kept from light, in full bottles, and stand more rigid tests than **Æther P.G.**

### (2) *From Methylated Alcohol.*

**bsolute Ether, Methylated,** Sp. Gr. 0·717 to 0.719.

Contains a little methylic ether, and is specially pted for producing local anæsthesia, as it boils der 80° F. It is not adapted for producing general esthesia.

**ectified Ether,** from Methylated Alcohol, Sp. Gr. 0·720.

Methylated ether, well washed to free it from methylic her, purified and re-distilled. It is well adapted for oducing general anæsthesia, if standing the tests given purified ether. Is considered safer than that from re spirit.—L. i./82,1072.

**ethylated Ether,** Sp. Gr. 0·730.

Is adapted for common purposes, ice machines, &c. ot fit for medical use. For photography a purer preparation, Sp. Gr. 0·725, is used.

### *Preparations.*

**Ether Phosphoratus,** *v.p.*378.

**ompound Anæsthetic Ether** for local anæsthesia.

Amyl Hydride 1 part, Rectified Ether 4 parts (*sic*). -M.T.G. ii./71,374. A modification of this was subse- uently published by Sir B. W. Richardson as,—

**ydramyl-Ether** for general as well as local anæsthesia.

Pure Hydramyl (Amyl Hydride) and Absolute Ether, each equal portions.—M.T.G. ii./71,492.

As Ether is a direct stimulant to the pancreas, creases its secretion, and assists in the emulsification fats, it is valuable in the treatment of consumptives, nd is used to form :—

**leum Morrhuæ cum Æthere.**

Cod Liver Oil 2 drachms, Purified Ether 10 minims. For dose, ether may be increased to 15 or 20 minims.—M.J. i./68,148, 543,570; L. i./70,380; ii./78,413; /79,859.

**erles of Ether,** 3 minims in each. *Dose.*—1 to 4.

**erles of Ether and Turpentine.** *Dose.*—1 to 4.

Useful to relieve pain of gallstones.

**piritus Ætheris** (*Off.*).

Ether, Sp. Gr. 0·735, 1, Alcohol (90 per cent.) 2.

*Dose.*—60 to 90 minims (3·5 to 5·3 Cc.), or 20 to 40 minims (1·2 to 2·4 Cc.) repeated.

The older formula is often ordered, viz.:—

**Spiritus Ætheris Compositus** (*Off.*).

Mix gradually Sulphuric Acid 36 with Alcohol (90 per cent.) 40; after 24 hours distil until the liquid in the retort reaches a temperature of 341° F. Pour the distillate into a separator, and, having removed the lower layer, add to the remaining upper layer Distilled Water 1½, and Sodium Bicarbonate *q.s.* to nearly neutralize. Separate the ethereal liquid (Oil of Wine), add it to Ether 5½ and Alcohol (90 per cent.) 38, and filter.

*Dose.*—60 to 90 minims (3·5 to 5·3 Cc.), or 20 to 40 minims (1·2 to 2·4 Cc.) repeated.

*Syn.*—Hoffmann's Anodyne, but the simple Spirit of Ether is now called Hoffmann's Anodyne in Continental Pharmacopœias.

**Spiritus Ætheris Nitrosi.**—*Syn.* SWEET SPIRIT OF NITRE (*Off.*).

An alcoholic solution of ethereal compounds containing ethyl nitrite (not less than 1·75 per cent.), aldehyde, and other substances, probably including paraldehyde.

*Dose.*—60 to 90 minims (3·5 to 5·3 Cc.), or 20 to 40 minims (1·2 to 2·4 Cc.) repeated.

**Liquor Ethyl Nitritis,** Solution of Ethyl Nitrite (*Off.*). *Dose.*—20 to 60 minims (1·2 to 3·5 Cc.).

A mixture of Absolute Alcohol 95 and Glycerin 5, containing in 100 parts by volume, 3 parts, or not less than 2½ parts by weight of Ethyl Nitrite (obtained by the interaction of alcohol, sodium nitrite, and diluted sulphuric acid, at a low temperature). Should be stored in small bottles.

Report on solution of ethyl nitrite and spirit of nitrous ether.—P.J. 1888, 190.

**Æther Aceticus**. Acetic Ether. (*Off.*).—Consists principally of ETHYL ACETATE.

*Dose.*—60 to 90 minims (3·5 to 5·3 Cc.) or 20 to 40 minims (1·2 to 2·4 Cc.) repeated. Is used as a menstruum in preparing Liquor Epispasticus (*v.p.* 129).

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## ÆTHYL BROMIDUM.

Ethyl Bromide.—*Syn.* HYDROBROMIC ETHER.

Is prepared by distilling a mixture of alcohol, bro-ine. and phosphorus. It is a colourless, very volatile quid with a strong peculiar odour and a sweetish warm aste. It has Sp. Gr. 1·419, boils at 105° F. On eeping, it is liable to liberate free bromine.

It has been used, particularly in America, as an næsthetic, as has also a mixture of Ethyl Bromide part, Chloroform 3 parts and Alcohol 4 parts. Also haled to relieve migraine.—L. ii./99,850.

**Æthyl Bromide Capsules.**

Encased in cotton wool and silk, contain 5 minims n each ; are convenient for use when fractured.

Notes and letter on its use for anæsthesia,—one death om : patients manifest a great dislike to its odour.—B.M.J. i./80,565,586,983 ; M.R. 1880,273.

Notes of 15 cases of anæsthesia and its characteris-ics ; is safe as an anæsthetic can be, rapid in its action nd pleasant in its effects, and is not inflammable.—Glasgow Med. Jour. March 1880,259.

For local anæsthesia, recommended as spray or simply hort covered contact, not necessary to freeze the part, ll feeling ceases. Is of great service to dentists.—. i./82,212 ; i./89,848,900 ; ii./90,414.

**Æthyleni Bromidum.** Ethylene Bromide.

*Must be distinguished from the above.*

*Dose.*—1 to 2 minims (0·06 to 0·12 Cc.) in lcoholic solution added to milk, or oily solution hypo-dermically or in **Capsules** containing 1 minim.

A colourless liquid, of Sp. Gr. 2·163, crystallizing elow 18° F., and containing 90·9 per cent. of bromine. Taste sweet, afterwards burning. Soluble 1 in 4 of 0 per cent. alcohol, miscible in all proportions with bsolute alcohol and oils, insoluble in water.

Has been found useful in epilepsy, mostly of long tanding ; reduces frequency and intensity of attacks. nly in large doses caused nausea.—Th. Gaz. 1891,540 P.J. 1891,1068; B.M.J. i./92,102.

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# ÆTHYL CHLORIDUM.

**Ethyl Chloride.**—*Syn.* Hydrochloric Ether.

At ordinary temperatures this is gaseous, but condenses nto a colourless mobile liquid with a sweetish burning aste. Slightly soluble in water, readily in alcohol.

Sp. Gr. 0·9214. On account of its low boiling point (about 50° F.) and the intense cold produced by evaporation, it is useful for producing local anæsthesia in minor surgical operations, such as removal of ingrowing nails, opening of abscesses, and tooth extraction; also for allaying the pain of neuralgia. All fat must be removed from part by washing with soap and then with alcohol or ether before applying. In dental cases the patient is instructed to breathe through the nose during operation, the part is well dried, and other parts protected. Its vapour is inflammable. Supplied in capsules containing 30 grammes, terminating in a fine tube, with spring-capped point, which is directed to the required part, when the chloride is volatilized by the warmth of the hand. It should be held at a distance of 6 to 10 inches from the part to be anæsthetized.—L. i./91,578,844; ii./92,998; P.J. 1891,978; M.P.C. ii./91,165; Th. Gaz. 1891,718; B.M.J. i./92,535; ii./92,1395; B.M.J.E. i./92,79; i./93,55.

Ethyl chloride applied to nape of neck for hysterical aphonia.—L. i./96, 161; P.J. i./96,139.

Use as a styptic.—L. i./96,230.

Recommended as a general anæsthetic for short operations.—B.M.J.E. ii./99,84.

Ten cases of narcosis in dentistry successful.—L. i./01,698.

**Kelene,** a fancy name for Ethyl Chloride.

Is supplied in suitable glass tubes for general anæsthesia, and requires a special mask for administration.

**Autosprays** are medicated forms of Ethyl Chloride.

With Capsicin 1 per cent., Carbolic Acid 2½ per cent., Cocaine Hydrochloride 2 per cent., Sublimate 0·2 per cent., Eucalyptol 5 per cent., Iodine 2½ per cent., Iodoform 2 per cent., and Menthol 5 per cent., respectively.

**Anestile.**

A mixture of ethyl chloride and methyl chloride, which does not harden the skin like the latter, and on account of its evaporating at a lower temperature than the former is quicker and more extended in action. It is sold in screw-capped cylinders containing 120 c.c. (about 4 ounces), and may be used for the same purposes as ethyl chloride, and in a similar manner, or by a ball-spray attachment which is supplied with the cylinder.—L. ii./93,459.

**Coryl and Anæsthol** are mixtures of similar composition.—P.J. 1893,805; ii./00,587.

## ÆTHYL IODIDUM.

**Ethyl Iodide.**—*Syn.* HYDRIODIC ETHER.

May be obtained by distilling a mixture of alcohol, iodine, and phosphorus. It is a colourless liquid, but liable to become coloured by setting free iodine. It has a penetrating ethereal odour; boils at 148° F., has Sp. Gr. 1·94; is not inflammable. When dropped on red-hot charcoal, it gives off a purple vapour. It is dissolved by alcohol and ether, but not readily by water.

It is useful inhaled as an anæsthetic to relieve the dyspnœa of bronchitic asthma and œdematous laryngitis. As it contains four-fifths of its weight of iodine, it forms a rapid means of saturating the system with this element; it neither impairs appetite nor weakens digestion. General iodization may be produced by painting the iodide on the calf of the leg or between the shoulders, and covering by impermeable dressing.

Useful for inhalation in œdema of the glottis from catarrhal laryngitis.—Pr. xxiii.136.

Acts as an antispasmodic in spasmodic asthma and certain forms of nervous dyspnœa: iodine can be detected in the urine 10 minutes after inhalation, and as long as 30 hours after.—Pr. xxv.459.

Useful in bronchial catarrh; induces sleep and promotes expectoration when inhaled.—B.M.J.ii./89,1216.

**Ethyl Iodide Capsules.**

Encased in cotton wool and silk, containing 5 minims in each. The glass capsule is snapped, the fluid absorbed by the wool, &c., and inhaled for four or five minutes. This may be repeated 3 or 4 times a day. The patient requires no assistance, and can take one of the capsules from the bedside, even in the dark.—L. ii./79,879.

**Ethyl Iodide and Chloroform Capsules** contain 5 minims of ethyl iodide and 10 minims of chloroform.

## AGARICUS ALBUS.

**White Agaric.**—*Syn.* POLYPORUS OFFICINALIS; BOLETUS LARICIS; FUNGUS LARICIS; LARCH OR PURGING AGARICUS.

*Dose.*—10 to 30 grains (0·65 to 2 Gm.).

In white irregular pieces, deprived of the outer rind, the size of the fist or larger; is light, spongy, friable, but not easily powdered, odour faint, taste sweetish, afterwards acrid and bitter.

Under the name of Agaricus are sold preparations of the fly agaric, *Amanita Muscaria* (see Muscarine), from which the White Agaric must be carefully distinguished.

Agaric is in large doses a purgative, small ones an astringent, given to check night sweating (M.R. 1879,267; Pr. xxiii.209; xxix.321), and diarrhœa, to diminish bronchial secretion, and to dry up the milk after weaning.

**Acidum Agaricum,** Agaric, Agaricic, Agaricinic, or Laricic Acid. *Syn.* AGARICIN. P.G.

*Dose.*—$\frac{1}{6}$ to 1 grain (0·01 to 0·065 Gm.), in a pill.

In minute white crystals, soluble in alcohol, chloroform, and ether, and boiled with water forms a gelatinous solution. Is specially useful in profuse sweating.—Pr. xliii.215; Th. Gaz. 1889,267,535; P.J. 1889,168.

For night sweats dose of $\frac{1}{15}$ grain in pill acts in about 6 hours.—L. i./84,405; i./86,223; Th. Gaz. 1888,246.

Should be combined with Dover's Powder, which checks its laxative action.—Th. Gaz. 1888,41.

Agaricic Acid exercises with certainty a restraining action upon the sweat of pulmonary tuberculosis and other diseases.—L. i./90.818; B.M.J. i./92,947; P.J. 1891,1170; M.C. Aug. 1891,375; Th. Gaz. 1891,464.

**Tinctura Agarici.** 1 in 10 of proof spirit.

*Dose.*—20 to 60 minims (1·2 to 3·5 Cc.).

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## ALCOHOL.

**Alcohol Absolutum,** Absolute Alcohol (O.E.). *Syn.* ETHYLIC ALCOHOL. B.P. 1885.

Ethyl hydroxide, with not more than 1 per cent. by weight of water. Sp. Gr. 0·794 to 0·7969.

In B.P. 1885 this had Sp. Gr. 0·797 to 0·800, and therefore contained 1 to 2 per cent. of water; the purest Alcohol obtained by Squibb had Sp. Gr. 0·7935 at 60° F. —"Ephemeris," ii., 562.

Alcohol Absolutus, P.G. iv., Sp. Gr. 0·796 to 0·800

**Alcohol (90 per cent.), Spiritus Rectificatus.** —*Syn.* RECTIFIED SPIRIT (*Off.*).

Contains 90 per cent. by volume, or 85·65 per cent. y weight, of ethyl hydroxide. Sp. Gr. 0·8340 (Squibb). trength 57·80° O.P. It is slightly stronger (1·35 er cent. by volume) than Spiritus Rectificatus, B.P. 1885, which contained 84 per cent. by weight =88·65 per cent. by volume) of ethyl hydroxide, and ad Sp. Gr. 0·838; 55·85° O.P. It is generally manuactured commercially of higher alcoholic strength, *i.e.* bout 70° O.P., Sp. Gr. 0·809, containing nearly 95 per ent. by weight of ethyl hydroxide, and is diluted as required. The corresponding Alcohol, U.S. has Sp. Gr. 0·820, and contains 94 per cent. by volume of ethyl hydroxide.

**Diluted Alcohol** (*Off.*).—*Syn.* **Alcohol Dilutum.**

Including Alcohol (90 per cent.)—see above—there re now official five strengths, or "several degrees of dilution," of Ethylic Alcohol, four of which are directed o be prepared from the Alcohol (90 per cent.), and contain respectively 70, 60, 45, and 20 per cent. by volume of ethyl hydroxide. On the next page are given Tables, the first comparing the new and old official Alcohols, and the second, founded on B.P. and Gilpin's Tables, showing :—

(i.) The volume of Distilled Water necessary to be added to 100 volumes of Alcohol (90 per cent.) for the production of each strength of Diluted Alcohol.

(ii.) The volumes of Alcohol (90 per cent.) and of Distilled Water respectively which, when mixed and reduced to 60° F. (15·5° C.), will produce, allowing for contraction in volume, 1000 Cc., 1 pint, or 1 gallon of each strength of Diluted Alcohol.

The Specific Gravity and the exact Excise (Sikes') strength at 60° F. (15·5° C.), in degrees over proof (O.P.) and under proof (U.P.), of each dilution, are given in the first column.

As a rule, in B.P. 1898, Alcohol (90 per cent.) has replaced Rectified Spirit, and Alcohol (60 per cent.) Proof Spirit, where these were ordered in the 1885 Pharmacopœia, unless other dilutions have been found more suitable as solvents.

## ALCOHOL TABLE B.P. 1885 and 1898.

| Vol. % of Ethyl Hydroxide, Specific Gravity, and Excise Strength. | Official Names. |
|---|---|
| **99·95** to **99·4** %<br>Sp. Gr. 0·794 to 0·7969 | Absolute Alcohol, B.P. 1898. |
| **90** per cent.<br>Sp. Gr. 0·8340<br>57·80° O.P. | Spiritus Rectificatus, Alcohol (90 per cent.) *Syn.* Rectified Spirit, B.P. 1898. |
| **88·65** per cent.<br>Sp. Gr. 0·838<br>55·85° O.P. | Rectified Spirit, B.P. 1885.<br>Contained 84 per cent. by weight of Ethyl Hydroxide. |
| **57** per cent.<br>(= 49 per cent. by weight)<br>Sp. Gr. 0·920<br>"Proof." | Proof Spirit, B.P. 1885.<br>5 vols. "Rectified Spirit," Sp. Gr. 0·838 } + { 3 vols. Distilled Water.<br>Contraction in volume about 2 5 per cent.<br>(Not now official.) |

### TABLE FOR THE DILUTION OF ALCOHOL (90 PER CENT.) TO WEAKER OFFICIAL STRENGTHS.

| Volume Percentage, Specific Gravity, and Excise Strength. | Alcohol. (90 per cent.) | Distilled Water. | Volume Produced. |
|---|---|---|---|
| **70** per cent.<br>Sp. Gr. 0·8900<br>22·78° O.P. | 100 vols.<br>777·8 Cc.<br>15 oz. 266 m.<br>124 oz. 215 m. | + 31·05 vols.<br>+ 241 5 Cc.<br>+ 4 oz. 398 m.<br>+ 38 oz. 307 m. | = 128·57<br>= 1000Cc.<br>= 1 pint<br>= 1 gal. |
| **60** per cent.<br>Sp. Gr. 0·9135<br>5·20° O.P. | 100 vols.<br>666·7 Cc.<br>13 oz. 160 m.<br>106 oz. 320 m. | + 53·65 vols.<br>+ 357·7 Cc.<br>+ 7 oz. 74 m.<br>+ 57 oz. 112 m. | = 150<br>= 1000Cc.<br>= 1 pint<br>= 1 gal. |
| **45** per cent.<br>Sp. Gr. 0·9436<br>21·07° U.P. | 100 vols.<br>500 Cc.<br>10 oz.<br>80 oz. | + 105·34 vols.<br>+ 526·7 Cc.<br>+ 10 oz. 256 m.<br>+ 84 oz. 130 m. | = 200<br>= 1000Cc.<br>= 1 pint<br>= 1 gal. |
| **20** per cent.<br>Sp. Gr. 0·9760<br>64·95° U.P. | 100 vols.<br>222·2 Cc.<br>4 oz. 213 m.<br>35 oz. 267 m. | + 355·8 vols.<br>+ 790·7 Cc.<br>+ 15 oz. 390 m.<br>+ 126 oz. 243 m. | = 450<br>= 1000Cc.<br>= 1 pint<br>= 1 gal. |

**piritus Tenuior, Proof Spirit.** B.P. 1885 *v.p.*56.

The danger of exposure to cold after excesses in alcohol. --L. i./99,740.

Action of various alcohols on peptic and pancreatic gestion of albuminoids.—C. and D. ii./99,934.

**piritus Methylatus, Methylated Spirit.**

A mixture of rectified spirit with wood spirit, con-ining 10 per cent. by volume of the latter. Sp. Gr. ·827 to 0·828.

This may be used, by permission of the Excise thorities, by manufacturers who have given a bond, the preparation of medicines in which, when finished, ere is no trace remaining as alcohol, but cannot be tailed without containing in addition ⅜ per cent. by lume of mineral naphtha of Sp. Gr. not less than 0·8; is then known as **Denaturalised Methylated pirit.**

Alcohol 75 % (about 5 volumes of 90 %, or of ethylated Spirit, to 1 of water) is used for sterilising e skin of patients, hands of surgeons and nurses, and struments, before operations.

**piritus Coloniensis,** Arzn., *Eau de Cologne.*

Oil of Bergamot 20, Oil of Lemon 20, Tincture of usk (1 in 50 Alc. 45 per cent.) 5, Oil of Neroli 2, il of Cinnamon 1, Oil of Cloves 1, Oil of Rose 1, cohol (90 per cent.) 1,800, Distilled Water 150 (all weight). Macerate for 8 days, and filter.

**piritus Myrciæ, Bay Rum.** U.S.

Oil of *Myrcia acris* 16, Oil of Orange Peel 1, Oil of mento 1, Alcohol (94 per cent.) 1,220. Mix, and add adually Water to 2,000. After 8 days, filter.

**qua Mellis, Honey Water.**

Yellow Sandal Wood, in shavings, 16, Alcohol (90 r cent.) 640. Macerate 7 days, and pour off the cohol. Add to the marc, Concentrated Rose and Orange ower Waters, of each 160, shake well, decant, and add the alcohol set aside. To this mixture add English il of Lavender, Oil of Cloves, of each 2, Oil of rgamot 1, Oil of Nutmeg, Oil of Sandal, of each ⅛.

**lcohol Allylicum, Allyl Alcohol, Allyl Hydroxide.**

If pure, is a colourless liquid miscible with water, with a pungent odour and burning taste. Is a powerful antiseptic, and inhibitory to the growth of bacilli.

**Alcohol Amylicum, Amylic Alcohol** (*Off.*

Consists principally of iso-primary amylic alcohol, and is prepared by purifying and fractionating fusel oil, collecting that distilling between 257° and 289° F.

**Alcohol Methylicum, Methylic Alcohol, Pyroxylic Spirit.** *Dose.*—30 to 60 minims (1·8 to 3·5 Cc.).

If absolute, has Sp. Gr. 0·796, but is not allowed by the Excise to be retailed pure, unless duty-paid. Is recommended internally for vomiting of pregnancy, sometimes combined with menthol. The commercial substance is known as wood naphtha, and contains acetone and other empyreumatic impurities. A purer preparation used in the arts has Sp. Gr. 0·81. It is a solvent of pyroxylin, and the following has been used :—

**Acetone.** DIMETHYL-KETONE.

Allied to methylic alcohol, obtained by the dry distillation of acetates. A clear, colourless, light, neutral liquid, with ethereal odour and camphoraceous taste, miscible with water, alcohol, ether, chloroform, and oils, and is a ready solvent of fats and resins, also of cantharidin. If pure, its Sp. Gr. is 0·7966 at 15° C. Is largely used in the manufacture of chloroform. It has been employed in dyspnœa with advantage in dose of 1 to 1½ drachms daily (L. i./78,690), and is an ingredient in the specialty sold under the name of

**Spirone.** This contains approximately Acetone 50, Potassium Iodide 2, Glycerin 24, Water to 100.

Useful as spray inhalation in paroxysmal sneezing and asthma.—B.M.J. i./88,1330.

## ALDEHYDUM DILUTUM.

### Diluted Aldehyde, T.H.

A mixture of alcohol and Aldehyde (Acetaldehyde) containing 15 per cent. of the latter. Aldehyde is an oxidation product of alcohol preceding the formation of acetic acid, into which, if in the pure state, it readily passes. Diluted Aldehyde is a colourless liquid neutral to test papers, and has an ethereal suffocating odour, producing spasm of the glottis when respired.

**por Aldehydi, T.H.**

Diluted Aldehyde 80 minims, water to 1 ounce.

A teaspoonful to a pint of water at 140° F.

Useful in catarrhal congestions and in ozæna.

**etaldehyde.** *Dose.*—2 to 8 grains (0·13 to 0·52 Gm.), in cachet or pills.

In silky white acicular crystals, slightly soluble in ohol and ether, insoluble in water. Has been found seful sedative and hypnotic.

**raldehydum, Paraldehyde** (*Off.*)

*Dose.*—30 to 120 minims (1·8 to 7 Cc.), or more, diluted syrup or almond mixture, repeated if needed ½ an hour.

A colourless liquid at the ordinary temperature, hough it, like glacial acetic acid, crystallizes if cooled ow 50° F.; Sp. Gr. 0·998; may be obtained by treating lehyde with dilute sulphuric or nitric acid. Its odour l taste somewhat resemble Aldehyde, but it does not se the same suffocating action when respired. Soluble n 10 of water. It and its solid congener Metaldehyde polymers of Aldehyde.

**ixir Paraldehydi.**

*Dose.*—1 to 3 drachms (3·5 to 10·5 Cc.).

Paraldehyde 240, Glycerin 240, Alcohol (90 per nt.) 480, Oil of Cinnamon 4, Oil of Bitter Orange 8, ccharin 1.

**raldehyde Capsules** contain 40 minims (2·4 Cc.).

*Dose.*—1 or 2.

Paraldehyde is contained, and probably the principal rapeutic agent, in **Spiritus Ætheris Nitrosi, B.P.**

It resembles chloral in its physiological action but, fers from it in strengthening the heart's action, whilst diminishes its frequency. It greatly increases the flow urine, but does not affect the skin, nor does it give e to digestive disturbances, to headache, or other pleasant symptoms.—B.M.J. i./83,215,956; ii./85,99; 89,515; L. ii./83,344; P.J. 1889,781; Y.B. 1890, 9; M.R. 1890,520; B.M.J. ii./91,115; L. ii./92,195.

Used 150 times in asylum practice. A useful hypno- quicker than chloral in dose of 30 to 90 minims.— i./85,201. Satisfactory as an enema.—L. i./86,127.

As a narcotic, may be given in those heart diseases in ich chloral would be dangerous.—Pr. xxxiii.138; i./87,555; ii./87,204.

Occasionally failed, when it produced slight excitement; vomiting, nausea, and giddiness sometimes caused. Report of Therapeutic Committee B.M.A.—B.M.J. ii./90,237; Pr. xlv.216; Th. Gaz. Sept. 1890, 625; P.J. 1890,104.

Poisonous effects after 13 drachms.—L. ii./00,875.

Three and a half ounces taken by error; 9 hours afterwards strychnine hypodermically and ammonia applied and injected, recovered consciousness in 34 hours.—B.M.J. ii./91,1254; M.C. Jan. 1892,256. Two ounces proved fatal (Westcott).

Of use in spasmodic asthma, relieves spasm, and induces sleep.—B.M.J. i./93,65.

Rapid relief of asthma. — B. M. J., ii./96,725; L. i./99,363.

**Aldehydum Formicum,** Formic Aldehyde.

Formic Aldehyde in vapour has been shown to be an active antiseptic, preventing decomposition and fermentation, while it is comparatively non-poisonous.—L. ii./97,695.

**Formaldehydum Solutum,** P.G.iv., P.Aus.Add.
*Syn.* FORMOL, FORMALIN.

An aqueous solution of formic aldehyde, containing about 35 per cent. Sp. Gr. 1·079 to 1·081.

It has a necrotic action on the skin, and is not suitable for wound treatment, but useful for sterilizing surgical instruments and the hands of operators. For disinfecting and deodorising rooms, a 1 or 2 per cent. solution may be used as spray, and is non-injurious to coloured fabrics. This strength has also been suggested as a pigment and spray for diphtheria. Useful as a preservative for embalming and the preservation of corpses for dissection. It shrivels up soft corns causing them finally to drop off if applied daily.

Formol is more especially useful as a hardening agent for microscopic objects and museum specimens in place of alcohol, as it does not cause shrinking or clouding of tissue, particularly of eyes; celular structures and colouring matters are well preserved. As a hardener, Formol should be diluted about 25 times, and about 10 times for museum use.—P.J. 1892,2,181; 1893,895; 1894,623,894,963,1009,353; L. i./94,1006; B.M.J.E. i./96,407.

s a lotion for ophthalmia and trachoma gives relief. .M.J. i./96,209.

seful pigment for ringworm of the scalp.—B.M.J. 6,650; i./97,972; P.J. ii./96,296.

haled for catarrh and pneumonia as a killer of o-organisms.—B.M.J. i./97,202.

halation may produce poisonous symptoms.— .J.E. i./96,24. Two per cent. solution recom- ded for disinfection of sick rooms by spray and wet ts.—Pr. lviii.109.

ase of poisoning by.—P.J. ii./99,295.

recautions when testing its value.—B.M.J. i./99,105.

ocal use recommended for ozæna.—B.M.J. ii./99,999.

ocal application to throat in lotion for pertussis.— .J.E. i./99,48.

ormalin is a very useful remedy for foul sweating of feet.—B.M.J.E. ii./98,99.

ormalin applied to sarcoma and bleeding tumours, ks hæmorrhage, hardens the substance and assists removal.—B.M.J. i./99,337.

phthisis recommended as an inhalation.—B.M.J. ,202,772,1317,1440.

igment of 1 to glycerin 3, for throat, mouth, hra, and for parasitic skin diseases.—L. i./01,468.

**yloform.**

compound prepared by the action of formic aldehyde starch; is an inodorous, insoluble, white powder, un- ed by heat. Has been used as an antiseptic dressing wounds.—P.J. ii./96,290; L. ii./97,40.

**rmoform.**

dusting powder composed of formaldehyde, thymol, oxide and starch.—P.J. ii./98,256.

**xtroform.**

compound of dextrin and formic aldehyde; a white der soluble in water and glycerin; introduced as an septic, specially useful in gonorrhœa.—P.J. ii./97,5; ./97,40.

**garisma Formaldehydi, G.H.**

olution 1 minim to water 1 ounce.

**tol.** *Syn.* FORMALIN-GELATIN.

compound of formic aldehyde and gelatin in whitish ular insoluble powder; recommended as an anti- ic dressing for burns, cavities, and suppurating rs.—Pr. lix.,220; B.M.J.E. ii./99,95.

**Paraform,** **Paraformic Aldehyde, Tri-oxymethylene.**

A polymer of formic aldehyde, in white friable amorphous masses, but slightly soluble in water, with an irritating vapour. Heated by an enclosed spirit lamp, it sublimes, combines with the products of combustion, is converted into formic aldehyde, and is a convenient means of applying the latter in vapour as an antiseptic and disinfectant. Tablets of 1 gramme, **Formalin-Disinfecting Tablets**, are prepared for use in the Alformant vaporiser, the number requisite being from one to twenty tablets per 1,000 cubic feet, the latter number ensuring thorough disinfection.—P.J. ii./97,101; B.M.J.E. ii./98,23.

In this mode of disinfection, more chemical is necessary than is usually recommended.—B.M.J. i./98,1542.

Experiments in disinfection of rooms.—B.M.J. i./99, 1280.

Catheters may be maintained aseptic by being kept in drawers wrapped in lint impregnated with 20 per cent. of paraform.

A pigment of paraform 8 parts with collodion 27, applied three times a day to warts is efficacious.—B.M.J.E. ii./99,80; P.J. i./00, 170; ii./00,703.

## ALOES.

### Aloe Barbadensis (*Off.*).

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

Bardados or Curaçoa Aloes, from *Aloe vera*, *A. chinensis*, and probably other species; commercially comes from Curaçoa.

### Aloe Socotrina (*Off.*). *Syn.* HEPATIC ALOES (*if opaque*).

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

Socotrine or Zanzibar Aloes, from *Aloe Perryi* and probably other species; imported principally *via* Bombay.

The Natal or Cape varieties of Aloes are not official.

**Decoctum Aloes Compositum** (*Off.*).

*Dose.*—½ to 2 ounces (15 to 60 Cc.).

Has Extract of Barbados Aloes 1 in 100. Was known as *Baume de Vie*.

**tractum Aloes Barbadensis** (*Off.*).

*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.).

**tractum Aloes Socotrinæ.** B.P. 1885 (not now official).

*Dose.*—2 to 4 grains (0·13 to 0·26 Gm.).

**ractum Colocynthidis Compositum** (*Off.*).

*Dose.*—2 to 8 grains (0·13 to 0·52 Gm.).

ontains about half its weight of Extract of Barbados es.

**ula Aloes Barbadensis** (*Off.*). As B.P. 1885.

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

**ula Aloes et Asafetidæ** (*Off.*). As B.P. 1885.

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

**ula Aloes et Ferri** (*Off.*).

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

xsiccated Ferrous Sulphate 1, Barbados Aloes 2, npound Powder of Cinnamon 3, Syrup of Glucose r *q.s.*

ula Ferri Aloes et Belladonnæ, U.C.H.

Exsiccated Ferrous Sulphate 3 grains, Extract of bados Aloes 1 grain, Green Extract of Belladonna rain, in each.

**lula Aloes cum Mastiche.** Lady Hesketh's, Lady Webster's, or Lady Crespigny's Dinner Pills.

Barbados Aloes 2 grains, Mastic ⅔ grain, Rose Petals rain, Syrup *q.s.*

They act principally on bowel, mastic being insoluble the stomach.

**lula Aloes et Myrrhæ** (*Off.*).

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

Socotrine Aloes 2, Myrrh 1, Syrup of Glucose 1½ *q.s.*

**lula Aloes Socotrinæ** (*Off.*). As B.P. 1885.

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

**lula Cambogiæ Composita** (*Off.*).

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

Gamboge 1, Barbados Aloes 1, Compound Powder of nnamon 1, Hard Soap 2, Syrup of Glucose 1 or *q.s.*

**lula Colocynthidis Composita** (*Off.*). As B.P. 1885.

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

Contains about one-third of its weight of Barbados es.

Pilula Colocynthidis et Hyoscyami (*Off.*). As B.P. 1885.

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

**Pilula Rhei Composita** (*Off.*).

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

Rhubarb 48, Socotrine Aloes 36, Myrrh 24, Hard Soap 24, Oil of Peppermint 3, Syrup of Glucose 44. This pill owes most of its purgative properties to Aloes, which forms one-fifth of its weight. It may be kept in specie (*sine* Glucose Syrup), 3 parts = 4 of mass. If the Oil of Peppermint 3 (which is objected to by pill manufacturers) were replaced by Menthol 2, dissolved in Alcohol *q.s.*, the pill would be improved.

Tinctura Rhei Aquosa, P. Aus. Add.

*Dose.*—20 to 60 minims (1·2 to 3·5 Cc.).

Rhubarb sliced 10, Borax 3, moisten with Alcohol (70 per cent.) 20, set aside 1 hour, add Water 150, macerate 24 hours, shaking frequently, and filter.

**Tinctura Aloes** (*Off.*).

*Dose.*—1½ to 2 drachms (4·3 to 7 Cc.) or ½ to 1 drachm (1·8 to 3·5 Cc.) repeated.

Extract of Barbados Aloes 1, Liquid Extract of Liquorice 6, Alcohol (45 per cent.) *q.s.* to 40.

Tinctura Aloes Composita, P. Aus. Add.

*Dose.*—1 to 2 drachms (3·5 to 7 Cc.).

Cape Aloes 15, Gentian Root 2½, Rhubarb 2½, Zedoary Root 2½, Saffron 2½, Alcohol (70 per cent.) 500.

**Tinctura Benzoini Composita** (*Off.*). *Syn.* FRIARS' BALSAM, TRAUMATIC BALSAM.

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.), with mucilage or yolk of egg.

Is the same as in B.P. 1885, using 90 per cent. alcohol in place of rectified spirit.

Formerly much used empirically as a wound dressing, to promote healing by first intent, as it gives an antiseptic resinous coating. A drachm to a pint of hot water is valuable as a sedative inhalation in acute laryngitis.

**Tinctura Benzoini Simplex, B.P.C.**

One in 10 of Alcohol (90 per cent.). One in Rose Water 40, useful as a face lotion in urticaria and in irritated conditions of the skin.

Most of the galenical preparations of Aloes are overcooked. If any preparation more definite than good comercial Curaçoa Aloes be needed, Aloin, which is crystalline nd definite (preferably Barbaloin), should be employed. ood Barbados Aloes yields 74 per cent. of extract, but l of the latter will not redissolve. Socotrine Aloes, hich always contains much mechanical impurity, yields nly about 45 per cent. of similar extract. Combined ith soap in pills, aloes is rendered more soluble; this, a weak alkaline solution, is said to prevent the griping ndency, and extract of liquorice covers the nauseous aste. The Compound Decoction of Aloes contains these ith the aromatic Compound Tincture of Cardamoms, ut the process for preparing it is too complicated. The riter suggests the following:—

**Mistura Aloes.**

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

Barbados Aloes 30, Myrrh 15, Potassium Carbonate 5, mix, add Liquid Extract of Liquorice 120; dissolve, nd add Compound Tincture of Cardamoms *q.s.* to 1,000. train, set aside, and, after seven days, decant. Contains loes 1 in 33, and has about three times the activity and irtue of the Compound Decoction of Aloes, *sine* Saffron. No boiling is needed, as the solution of the drugs is early complete by trituration.

Cathartic action of drugs of the aloe group is due to xy-methyl-anthraquinones. Alkalis assist the oxidation f aloins into Emodin, which is tri-oxy-methyl-anthrauinone, *v.p.*133. - P.J. ii./98,78,325.

**Pulvis Aloes cum Canella, P.D. 1836.** *Hiera Picra.*

*Dose.*—3 to 10 grains (0·32 to 1·3 Gm.).

Hepatic Aloes 16, White Canella Bark 3. Much sed as a domestic emmenagogue.

**Aloin** (*Off*).

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) or less in pill with hard soap.

A principle obtained officially from Barbados or Socorine Aloes in odourless yellow crystals, having the haracteristic taste of aloes; soluble in cold water, 1 in 140 Barbaloin), freely soluble in alcohol. It is named Barbaloin, Socaloin, Nataloin, or Zanaloin, as obtained espectively from Barbadoes (or Curaçoa), Socotrine, Natal, and Zanzibar aloes, these, though not identical, are homologous bodies, and their medicinal properties are similar. Barbaloin is preferred in commerce.—M.T.G. ii./76,177; P.J. 1875,208; P.J. 1876,70.

The purgative properties of aloes are due to these crystalline principles and to uncrystallizable matter soluble in water, nearly allied to them. The activity of Aloin is increased by giving it with an alkali, presumably to decompose it, as Aloin appears not to be itself an active purgative, but to become gradually decomposed in the intestine into a more active body, hence its slowness in action.—B.M.J.E. i./91,135.

**Tablets**, $\frac{1}{10}$ and $\frac{1}{2}$ grain.

**Pilula Aloin Composita.**—For constipation, Sir A. Clark recommended Aloin, extract of nux vomica, sulphate of iron, myrrh, and soap, of each $\frac{1}{2}$ grain in a pill taken half an hour before last meal of the day. If fæces be hard and dry and there be no special heart weakness, add $\frac{1}{2}$ grain of ipecacuanha, and should griping be caused add also $\frac{1}{2}$ grain of extract of belladonna.—L. i./87,2.

**Pilula Aloin, Strychninæ et Belladonnæ.**—*Dose.*—1 or 2. Aloin $\frac{1}{5}$, Strychnine $\frac{1}{60}$, Alcoholic Extract of Belladonna, $\frac{1}{8}$, in each; in fractions of a grain, makes one pill; of gramme, fifteen.

**Tablets, of Aloin Compound.** Aloin $\frac{1}{5}$ gr., Strychnine Sulphate $\frac{1}{60}$ gr., Ext. of Belladonna $\frac{1}{8}$ gr., Ipecacuanha $\frac{1}{10}$ gr.

**Formaloin.**—*Dose* ?

A compound of aloin with formic aldehyde, in yellow tasteless amorphous powder, insoluble in water.

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## ALUMINIUM.

**Ferro-Alumen**, *v.p.*252.

**Glycerinum Aluminis**, *v.p.*248.

**Ophthalmic Discs** contain $\frac{1}{250}$ grain of alum in each.

**Points of Alum**, also of **Copper Sulphate**, mounted in wooden cases, are prepared for ophthalmic and other uses.

**Liquor Aluminii Acetici**, Solution of Aluminium Acetate, P.G.

Dissolve Aluminium Sulphate 30 in water 80, add Acetic Acid B.P., by weight, 34, and while constantly shaking pour in by degrees Precipitated Calcium Carbonate mixed with water 20. Set aside for 24 hours to posit, and shake frequently, then decant, press the sedi- nt, and filter the solution. Contains $7\frac{1}{2}$ to 8 per nt. of Aluminium Sub-acetate. Diluted 1 to 3 of ange flower water for mouth lotion as used at Aix-les- ins.

Diluted with twice as much water, thus making a $2\frac{1}{2}$ r cent. solution, it has been used as an antiseptic ion, and gauze impregnated with a 5 per cent. solution s been used as a dressing. —M.T.G. ii./80,506.

**luminii Chloridum.** *Dose.*—2 to 4 grains (0·13 to 0·26 Gm.).

For medicinal use this is met with as a white norphous powder, very deliquescent. Of distinct rvice in locomotor ataxy; relieves the pain.—Gowers, )iseases of the Nervous System,' 2nd ed. vol. i. p. 437; . ii./99,1826.

**iquor Aluminii Chloridi.**

A straw-coloured inodorous liquid, with an astringent ste and acid reaction, Sp. Gr. 1·250; may be ob- ined by the double decomposition of aluminium lphate and barium chloride. It possesses strong tiseptic properties. **Chloralum,** the common dis- ifectant, prepared like the last, using calcium chloride, a much weaker solution, and is darker in colour, wing to its containing some ferric chloride in solution. --L. ii./70,354,527.

**apis Divinus, R.O.H. Cuprum Aluminatum.** P.G.; P.Jap. (G.H. has less camphor.)

Potassium Alum, Copper Sulphate, and Potassium itrate, of each 1 part are fused together, Camphor qual to $\frac{1}{50}$ of the whole previously mixed with an qual weight of Alum is added and incorporated, and the ixture run into moulds to form pointed sticks.

**Pulvis pro pedibus, P.Helv.**

Potash Alum 15, Talc 85, in fine powder. For nder feet.

**Alumnol.**

An aluminium salt of naphthol-sulphonic acid, in hitish powder. Very soluble in water; also soluble in lcohol and glycerin. Is precipitated by albumen, but edissolved by excess. Dissolves in purulent discharges, nd does not stop up discharging wounds. Has been found useful in lotion. ½ to 2 per cent. applied to suppurating surfaces and secreting cavities,—pharyngitis, rhinitis, ozæna, and gonorrhœa. Also in ointment and suppositories.—P.J. 1893,605; Pr. xlix.,453; B.M.J.E. ii./92,99; i./93,64.

The following compounds of aluminium, viz.:—**Salumin** (salicylate), **Gallal** (basic gallate), and **Tannal** (tannate) have been used as antiseptic astringents in ozæna and other nose and mouth affections. They are insoluble powders, but soluble compounds, ammoniacal of Salumin and Gallal, and tartrated of Tannal are prepared.

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## AMMONIUM.

**Ammonii Benzoas** (*Off.*), *v.p.*2.

**Ammonii Bicarbonas.**

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.).

In minute white crystals, soluble 1 in 8 of water. As a diffusible stimulant is less caustic in taste and more palatable than the official carbonate; is specially adapted for effervescing draughts in conjunction with citric acid.

**Ammonii Bromidum** (*Off.*).

*Dose*, 5 to 30 grains (0·32 to 2 Gm.).

Is used where the potassium salt may cause too much depression.

Inhalation of vapour of ammonium bromide beneficial in various forms of asthma.—L.i/90,1012,1068.

Tablets, 5 grains (0·32 Gm.).

*Dose.*—1 to 6 or more.

Trochisci Ammonii Bromidi. 2 grains in each with fruit paste. For whooping-cough, spasmodic affections of the throat, and loss of voice.

**Rubidium-Ammonium Bromide**, *v.p.*424.

**Ammonii Chloridum** (*Off.*).

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

Liquid extract of liquorice disguises its nauseous taste.

Tablets, 3 and 5 grains.

Tablets of Ammonium Chloride 3 grains and Borax 2 grains.

Trochisci Ammonii Chloridi, T.H. Contain 2 grains of the salt in each, with black currant paste as a basis. One every 3 hours useful in congestion of the harynx and larynx, loss of voice arising from cold and ronchial cough.

**Trochisci Ammonii Chloridi cum Glycyrrhiza.** Contain 3 grains in each.

**Vapor Ammonii Chloridi** is used in affections of he throat and Eustachian tube. Produced by air being rawn through hydrochloric acid and ammonia in a uitable apparatus and purified by passing through water or moist sponge. 15 cases reported.—M.P.C. ii./89,456.

**Ammonii Fluoridum,** *v.p.*20.

**Ammonii Iodidum, U.S.**—*Dose,* 3 to 20 grains (0·2 to 1·3 Gm.).

A white granular salt, in minute crystalline cubes, ery deliquescent and soon becoming yellow or yellowish-rown on exposure to air; odourless when white, with sharp saline taste and a neutral reaction. Soluble 1 in of water, 1 in 3 of 90 per cent. alcohol. Should be ept from light and air, else free iodine is quickly iberated. It causes less depression than potassium odide, and is preferred to the latter for syphilis and heumatism.

**Ammonii Nitras.** B.P. 1885.

The fused salt is used for the production of **Nitrous Oxide** gas; on heating to 350° F. it is resolved into this gas and the vapour of water.

Death under nitrous oxide gas.—L. i./99,959; B.M.J. ./99,850. Comments on same.—L. i./99,1053.

Nitrous oxide combined with oxygen.—L. i./00,1435.

**Ammonii Picras,** *v.p.*27.

**Ammonii Salicylas,** *v.p.*33.

**Ammonii Sulpho-Ichthyolas,** *v.p.*286.

**Ammonii Valerianas.**

*Dose.*—1 to 8 grains (0·065 to 0·52 Gm.). In masses of flat colourless deliquescent crystals, with a strong valerian odour, very soluble in water and alcohol. A 25 per cent. aqueous solution is prepared for dispensing. *Valérianate d'Ammoniaque Liquide* (Pierlot), a French specialty, is Valerianic Acid 3, Ammonium Carbonate *q.s.* to neutralize, Alcoholic Extract of Valerian 2, Water 95. *Dose.*—2 to 4 drachms (7 to 15 Cc.).

**Linimentum Ammoniæ** (*Off.*).

Solution of Ammonia 1, Almond Oil 1, Olive Oil 2. Shake together.

**Liquor Ammoniæ** (*Off.*), Sp.Gr. 0·959. Contains 10 per cent. by weight of $NH_3$.

*Dose.*—10 to 20 minims (0·6 to 1·2 Cc.).

Hypodermic injections of 2 to 6 minims for collapse; or up to 36 minims for snake poisoning, equal to 12 minims of the stronger liquor.

Cobra snake bite, patient recovered after hypodermic injections of 15 minims of the strong liquor diluted with an equal amount of water.—Pr.xl.291.

**Liquor Ammoniæ Fortis** (*Off.*), Sp.Gr. 0·891.

*Dose.*—3 to 6 minims (0·18 to 0·35 Cc.).

Is three times the strength of last preparation.

**Liquor Ammoniæ Fortissimus,** Sp.Gr. 0·88. It should be about 2·6 per cent. stronger than last preparation.

**Liquor Ammoniæ Domesticus,** Household Ammonia.

Oleic Acid 1, Rectified Spirit 1, mix and add strong Solution of Ammonia 7, Distilled Water 7; shake well. For use diluted as a detergent of the skin. In the bath 1 in 1000 to 2000 softens the water; also for general domestic purposes.

**Liquor Ammonii Acetatis Fortior.** B.P. 1885.

*Dose.*—25 to 75 minims. (1·5 to 4·5 Cc.). 1 with distilled water *q.s.* to 5 forms

**Liquor Ammonii Acetatis** (*Off.*).

*Dose.*—2 to 6 drachms (7 to 21 Cc.). Keep in green glass bottles.

Most serviceable in delirium tremens, one drachm every hour at first, reduced gradually.—B.M.J.ii. 92.299.

**Liquor Ammonii Citratis Fortior.** B.P. 1885.

*Dose.*—30 to 90 minims (1·8 to 5·3 Cc.).

One part to three of distilled water forms

**Liquor Ammonii Citratis** (*Off.*).

*Dose.*—2 to 6 drachms (7 to 21 Cc.).

This preparation is of the same strength as before, but is now officially directed to be prepared by neutralizing Citric Acid 1, with Ammonium Carbonate in Distilled Water *q.s.* to 8.

**Spiritus Ammoniæ Aromaticus** (*Off.*).

*Dose.*—60 to 90 minims (3·5 to 5·3 Cc.), or 20 to 40 minims (1·2 to 2·4 Cc.) repeated.

**Spiritus Ammoniæ Fetidus** (*Off.*).

*Dose.*—60 to 90 minims (3·5 to 5·3 Cc.), or 20 to 0 minims (1·2 to 2·4 Cc.) repeated.

**Tinctura Ammoniæ Composita, P.L.**—*Syn.* Eau de Luce.

Mastiche 2 drachms, Rectified Spirit 9 drachms, Oil of Lavender 14 minims; macerate, decant, and add Stronger Solution of Ammonia 20 ounces. Topically relieves bites of insects.

**Tinctura Guaiaci Ammoniata** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Guaiacum Resin 200, Oil of Nutmeg 3·1, Oil of Lemon 2·1, Strong Solution of Ammonia 75, Alcohol (90 per cent.) *q.s.* to 1,000.

**Tinctura Valerianæ Ammoniata** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Valerian Rhizome in No. 40 powder 200, Oil of Nutmeg 3·1, Oil of Lemon 2·1, Solution of Ammonia 100, Alcohol (60 per cent.) 900; by maceration.

## AMYL NITRIS.

**Amyl Nitrite.**—(*Off.*)

*Dose.*—By inhalation, the vapour of 2 to 5 minims (0·12 to 0·3 Cc.). By the mouth, ½ to 1 minim (0·03 to 0·06 Cc.).

A yellowish ethereal liquid with a peculiar not disagreeable odour; produced by the action of nitrous acid on fractionated amylic alcohol and consisting chiefly of iso-amyl nitrite—Sp. Gr. 0·870 to 0·880; about 70 per cent. distils between 194° to 212° F.,—it is difficult to obtain uniform (*v.p.*73); soluble in alcohol, insoluble in water. Should be kept cool; by exposure to the air it becomes comparatively inert. Tested by means of Allen's Nitrometer, a 5 per cent. solution in alcohol should yield not less than six times its volume of nitric oxide gas. Amyl nitrite dilates the vessels and lowers blood-pressure.—B.M.J. i. 89,29; P.J. 1888, 491.

Results of Croonian Research on the Nitrites.—L. ii. 93,123,177; B.M.J. i. 93,1305; ii. 93,1,56,108,169.

In 30 to 40 seconds after inhaling or swallowing a dose it flushes the face, and increases the heat and perspiration of the head and neck.

It has been successful in relieving angina pectoris, sea-sickness, ague, spasmodic asthma, migraine, neuralgic dysmenorrhœa, post-partum hæmorrhage, as an antidote to chloroform, to ward off epileptic attacks, and for the spasm of false croup and whooping-cough.

**Capsules of Amyl Nitrite.**

Encased in cotton wool and silk; 1, 2, 3, or 5 minims.

In use the glass capsule is broken, the liquid soaks the cotton wool and silk cover, and can be inhaled most conveniently. For practical purposes the 3-minim size meets all wants.—L. ii./78,89, B.M.J. i./78,452.

**Mistura Amyl Nitritis.**

Amyl Nitrite 2, Alcohol (90 per cent.) 16. Mix and add to Powdered Tragacanth 1 (contained in a dry phial). Then add gradually Distilled Water to 240. Shake well. *Dose.*—1 or 2 drachms (3·5 to 7 Cc.); is useful against sea-sickness.

In chloroform syncope, Amyl Nitrite affords the quickest means of restoring the heart's action; the capsules are the most convenient form of using it.—B.M.J. ii./84,1063; Brit. Dent. Jour. 1884,745; B.M.J. ii./85, 538-9; ii./88,522.

For the treatment of angina pectoris 5 drops inhaled; the physiological action occurs in 30 to 60 seconds.—L. ii./67,97; L. ii./75,445; M.T.G. ii./70,272,321; M.T.G. ii./76,17; B.M.J. ii./88,522.

In ague, on the onset of the cold stage, 5 minims inhaled cuts short the attack and checks the recurrence of the paroxysms.—L. i./78,37,185,445; L. ii./78,693; L. i./85,911.

As an antidote to chloroform 3 minims inhaled.—L. i./75,644; ii./91,463; B.M.J. i./79,969; ii./88,179.

Very useful in sea-sickness, 3 drops (from a glass capsule) inhaled and repeated every 2 or 3 hours if necessary.—L. i./79,650,687,759; L. ii./79,212,226, 265,301,303.

In post-partum hæmorrhage, 5 minims inhaled restored patient from collapse.—B.M.J. ii./70,691.

To restore animation a dose should be given in doubtful cases of death, either drowning, hanging, fainting, or fear of being buried alive.—B.M.J. i./79,863.

In tetanus inhale a dose in every spasmodic seizure to gain time.—M.T.G. i./70,472; L. i./74,871; i./98,103.

Relieves infantile convulsions, ¼ to ⅓ minim in alcoholic ution given on sugar.—L. i./82,667.

Is a powerful agent to relax uterine spasms and hour- ss contraction, whether natural or caused by ergot.— M.J. i./82,377.

In uræmic asthma, Nitrite of Amyl capsules found eful.—B.M.J. i./83.811,956,1064,1115.

In puerperal eclampsia, excretion of uric acid largely creased under its use.—Pr. xxxiv.50.

Successful use in epilepsy, controlling the fits and eventing insensibility. One drachm swallowed by istake, partly recovered by apomorphine, produced ermanent good effects.—B.M.J. ii./89,599.688.

The best remedy in angina pectoris; patient's mind lieved by small doses of morphine, combined with e nitrite.—L. i./90. 240. Amyl nitrite and nitro- ycerin the best remedies for angina.—Pr. xlvi.253; .C. May 1891,132.

Amyl Nitrite in capsules most valuable in the 'status pilepticus.'—L. ii/96,942.

Should be always kept at hand by angina patients.— i./98,837; B.M.J. i./98,808.

Recovery after 2 drachms taken internally.—B.M.J. /98,145.

Research on composition; commercial amyl nitrite own to contain an α- and a β-amyl nitrite, as well as **sobutyl Nitrite.** This, when pure, is found prompt action on blood-pressure, pulse-rate, and respira- on, and may be used as a substitute for amyl nitrite r inhalation.—P.J. 1888,485; B.M.J. ii./88,1407, .B. 1890,308; Pr. xlvii.259.

**apsules of Isobutyl Nitrite.** Encased in cotton wool and silk, contain 3 minims.

Comparison of the nitrites of the paraffin series; the ertiary are more active than the primary and secondary, ut are less stable.—P.J. 1894,313.

## AMYLENI HYDRAS.

### Amylene Hydrate. P.G.

*Syn.* Dimethyl-ethyl Carbinol. *Dose.*—30 to 0 minims (1·8 to 4·7 Cc.), flavoured with liquorice.

A colourless liquid, of pungent taste and odour, resembling a mixture of paraldehyde and camphor. Soluble in 8 parts of water, also in alcohol. Sp. gr. 0·815 to 0·820, boiling point 216°F. It is a hypnotic, occupying an intermediate position between chloral and paraldehyde.—B.M.J. i/88,87,549; P.J.1887,89.

**Capsules** contain 10 minims in each. *Dose.*—3 to 6.

Is a reliable hypnotic, does not disturb the stomach.—Th. Gaz. Dec. 1887,819; May, 1888,331.

Four cases of poisoning (resembling alcoholic), from overdose. All recovered under hypodermic injections of camphor.—P.J. 1889,608, *ex* Med. Chron.

Recommended for use in epilepsy, of most value in lighter cases.—M.C. April 1890,46; B.M.J.E. ii./90, 59; L. ii./91,1185; Pr. xlvii.383.

**Amylene-Chloral.**—*Syn.* DORMIOL; DIMETHYL-ETHYLCARBINOL-CHLORAL.

*Dose.*—5 to 50 minims (0·3 to 3 Cc.).

Produced by the action of amylene hydrate on chloral.

Is an oily liquid with amylene odour and burning taste, has strong hypnotic properties, without unpleasant after-effects, even in mania. A 50 per cent. solution is supplied commercially; best administered in a 2 ounce draught with syrup or liquid extract of liquorice.—P.J. ii./99,135.

**Capsules** contain 7½ minims (0·5 Gm.) pure Dormiol.

Melancholia and hypochondriasis, useful in.—B.M.J.E. ii./00,19.

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## ANTIMONII CHLORIDUM.

**Antimony Chloride.**—*Syn.* ANTIMONY TRICHLORIDE.

When pure is in colourless crystals, or translucent crystalline masses, known as butter of antimony. It is very corrosive; on addition to water, it decomposes into free hydrochloric acid and basic antimony oxychloride, powder of Algaroth.

**Liquor Antimonii Chloridi.**

A heavy caustic liquid of a yellowish red colour; Sp. Gr. 1·47. It is coloured by impurity, ferric chloride often added intentionally. It can be obtained colourless. Antimony chloride is a useful caustic and desiccating escharotic, does not cause much pain.

## APIOL.

*Dose.*—3 to 6 minims (0·18 to 0·35 Cc.), in perles, minims in each.

A liquid preparation obtained from, and containing e active properties of, the fruit of *Apium Petroselinum*, mmon parsley. It is a dark oily liquid, with a culiar odour and a pungent taste like parsley, is not iscible with water, but dissolves readily in alcohol and her. A stearoptene in light, colourless, acicular crysls, only slightly soluble in water, is also known by the me of **Apiol.** It has been employed as an antiriodic for ague, and for amenorrhœa and dysmenorœa.

Had decided efficacy in primary amenorrhœa or ficiency of secretion, as well as in accidental suppreson and in dysmenorrhœa, a perle given night and orning for 4 or 5 days during the epoch.—M.T.G. '61,97; L. i./85,59.

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## APOCYNUM, U.S.

**American Indian Hemp Root.**—*Syn.* pocynum Cannabinum, Canadian Hemp.

*Dose* of root in powder.—1 to 20 grains (0·065 to 3 Gm.).

A resin Apocynin, in white micaceous crystals, soluble alcohol and ether, a heart poison, arresting it in ystole; and a glucoside Apocynein, have been isolated om this root. These must be distinguished from Apocynin, an eclectic brown-coloured extractive, given dose of ½ to 1 grain (0·032 to 0·065 Gm.).

**Tinctura Apocyni.** 1 in 10 of proof spirit.

*Dose.*—5 to 60 minims (0·3 to 3·5 Cc.).

American Indian Hemp is a powerful emetic and iaphoretic in large doses; it also acts as a cathartic, nthelmintic, and diuretic, useful in dropsy and Bright's isease.

Considered one of the best diuretic and hydragogue athartics, a small quantity produces diuresis, emesis, or atharsis; it has an agreeable aromatic taste and also ossesses tonic properties.—Pr. xxviii.62.

Uræmia is warded off by the profuse diuresis it proluces.—Y.B. 1886,67.

Very valuable in removing pleuritic effusion.—Ed.M.J. 1887,847; Th. Gaz. 1887,29.

Useful in dilatation of heart and valvular lesions. Renders pulse slower and fuller. — L. i./94,841; i./96,1375; B.M.J.E. i.96,296; P.J. ii./95,551.

Valuable as a diuretic for cases of anasarca.—B.M.J. ii./97,1714.

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## APOMORPHINÆ HYDROCHLORIDUM.

### Apomorphine Hydrochloride (*Off.*).

*Dose.*—$\frac{1}{32}$ to $\frac{1}{16}$ grain (0·002 to 0·004 Gm.), increased, as an expectorant; $\frac{1}{12}$ to $\frac{1}{4}$ grain (0·0054 to 0·016 Gm.) as an emetic; $\frac{1}{25}$ to $\frac{1}{6}$ grain (0·0026 to 0·01 Gm.) hypodermically.

A derivative of morphine or codeine obtained by heating them with an excess of hydrochloric acid and without access of air. Apomorphine is morphine deprived of a molecule of water. In commerce the hydrochloride occurs in minute pale greyish-white, acicular crystals, soluble 1 in 50 of water; the solution turns emerald-green in colour, but loses little of its medicinal powers. This discoloration is said to be due to the action of free ammonia in the air. Insoluble in ether and chloroform.

It acts as a non-irritant emetic and powerful anti-stimulant; in bronchial asthma doses of $\frac{1}{6}$ grain are very useful. Small doses are expectorant. May be given as

**Tabellæ Apomorphinæ,** $\frac{1}{50}$ grain (0·0013 Gm.) in each, combined with chocolate. G. H. contain $\frac{1}{30}$ grain.

**Injectio Apomorphinæ Hypodermica.** (*Off.*).

Apomorphine Hydrochloride 1, Diluted Hydrochloric Acid 1, Distilled Water to 100. *Dose.*—5 to 10 minims (or more) as an emetic. The addition of a trace of acid keeps it stable and colourless. This solution may be used for dispensing.

It loses not much in strength by becoming coloured.—L. ii./85,641; B.M.J. i./91,452.

**Hypodermic Lamels** are prepared containing $\frac{1}{10}$ grain in each.

**Mistura Apomorphinæ et Terebeni, G.H.**

*Dose.*—1 ounce. Apomorphine Hydrochloride $\frac{1}{10}$ grain, ebene 15 minims, Balsam of Peru 10 minims, ilage Mixture* to 1 ounce.

**rupus Apomorphinæ Hydrochloridi, B.P.C.** pomorphine Hydrochloride 5 grains, Diluted Hydroric Acid 15 minims, Rectified Spirit 7 drachms, tilled Water 7 drachms, Syrup to 20 ounces.

*ose.*—$\frac{1}{2}$ to 1 drachm (1·8 to 3·5 Cc.).

pomorphine never failed to produce vomiting by ingle dose, $\frac{1}{5}$ grain by the mouth or $\frac{1}{10}$-grain odermically. The vomiting seems to put an end to lf; there is no subsequent nausea, nor is it followed accompanied by any ill effects.—Trans. Clin. Soc. 59,166; M.T.G. ii./79,592.

n a case of poisoning by carbolic acid of great use n emetic.—Pr. xix.377; L ii./83,280.

Œsophagus obstructed by plum-stone, by injecting morphine hypodermically the vomiting caused its noval. Useful as an emetic in poisoning or stomach rloaded.—Pr. xxi.375.

Two cases of poisoning treated by hypodermic injecn, one alcoholic, recovered; the other by oxalic acid, s fatal.—L. i./83,1073; Th. Gaz. April, 1889,242.

As an expectorant $\frac{1}{20}$ grain every 2 hours is useful, given with the same quantity of morphine every 2 or 4 urs, it lessens cough and increases fluidity of sputa.—R. 1882,483,497.

In pertussis is given with good effect, combined with orphine.—B.M.J. ii./87,78.

Useful as an expectorant in bronchitis; dose may be creased up to $1\frac{1}{2}$ or 2 grains three times daily without nesis, although nausea may be produced in some cases. st given with syrup of Virginian prune, syrup of tar, syrup of lemon, *v.p.*401. Also caused expectoration ed as a spray inhalation, $\frac{1}{10}$ to $\frac{1}{5}$ grain in a little warm ater.—B.M.J. i./91,452; P.J. 1891,878; M.C. June, 91,213; Th. Gaz. 1891,411.

Hypnotic effects from sub-cutaneous injection of $\frac{1}{30}$ ain.—B.M.J.E. ii./00,63.

As a hypnotic, most effective. Hypod. dose—$\frac{1}{30}$ ain, repeated in half-an-hour if first injection should il. Not more than $\frac{1}{10}$ grain should be given in hysria, insomnia and neuralgias.—Therap. 1900,202.

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**Mistura Mucilaginosa, G.H.** Mucilage of Gum Acacia 2 drachms, Syrup 30 minims, Water to 1 ounce.

In alcoholism it acts as a sedative and does not cause vomiting.—L. i./00,1481,1635; B.M.J. ii. 00,1375.

**Apocodeinæ Hydrochloridum.** *Dose.*—$\frac{1}{10}$, gradually increased to 1 grain (0·0065 to 0·065 Gm.).

A pale brown microcrystalline (?) or amorphous greyish powder freely soluble in water.

A good expectorant hypodermically. Solution must be neutral; dose up to 25 minims of 2 per cent. solution. Internally, 10 to 30 minims of 1 per cent. solution caused no nausea or vomiting, but produced free expectoration. In pill 3 or 4 grains daily may be safely given.—B.M.J. i./91,455; P.J. 1891,878; M.C. June, 1891,213.

Is a sialogogue, and increases peristalsis; is not emetic, but is a sedative suitable for children.—Lyon Médicale, 1893, xxi.69; xxiii.145.

## ARGENTUM.

### Silver.

**Argenti Citras,** Silver Citrate.—*Syn.* Itrol.

A white, odourless non-caustic powder, soluble about 1 in 4,000 of water. Is recommended in Credé's treatment as an antiseptic for wounds, in lotion, ointment, or powder.—P.J. i./96,243; Pr. lx. 292.

**Argenti Lactas.** Silver Lactate. *Syn.* Actol.

A whitish odourless powder soluble 1 in 15 of water, recommended in solution 1 in 200 to 1,000 as an antiseptic for surgical use and for rendering aseptic ligatures and drainage tubes. Being more soluble, is more irritating than silver citrate.

For gonorrhœa.—B.M.J.E. i. 00.99.

For chronic abscesses at the roots of the teeth fresh hypodermic injections of Actol 1 : 500.—P.J. ii./00,703.

**Argenti Nitras**, Silver Nitrate. (*Off.*).—*Syn.* Lunar Caustic.

*Dose.*—$\frac{1}{4}$ to $\frac{1}{2}$ grain (0·016 to 0·032 Gm.) in a pill, best with kaolin ointment as an excipient—*not* with bread crumb,—this contains common salt, which decomposes it.

Antidote to Silver Nitrate—common salt given in some demulcent drink. Salt is also used to arrest its action locally as a caustic. The pain caused by application of solutions of silver nitrate may be alleviated by vious application of a solution of cocaine nitrate, hydrochloride being incompatible with it.

litigated Silver Nitrate is prepared of various ngths by fusing together silver nitrate 1 to 1 Jap.), 1 to 2, or 1 to 3 of potassium nitrate, for use of oculists and surgeons.

The fused mixture of 1 part with 2 of potassium rate is official as **Mitigated Caustic,** or

**genti Nitras Mitigatus** (*Off.*).

**genti Nitras Induratus.** Toughened Caustic (*Off.*).

Has 5 per cent. of potassium nitrate added to it ore fusing and moulding it into caustic points.

**usticum Argenti Nitratis.** St. John's Hospital. Silver Nitrate 1, Spirit of Nitrous Ether 7. Can be nted on a greasy skin.

**gentic Hair Dye (Black or Brown).**

No. 1 Solution.—Silver Nitrate 1, Distilled Water 12.

No. 2 Solution.—Sulphurated Potash 1, Distilled ater to 8. After washing and drying the hair, solutions to be applied separately, in above order, d after 2 minutes the hair well washed with rain ter. This dyes black, but lighter shades may be tained by using a weaker strength of No. 1 solution, ich should not be allowed to touch the skin.

**lack Dye.**

No. 1 Solution.—Pyrogallic acid 1, Alcohol (90 per nt.) 8, Distilled Water 40. Apply before No. 2.

No. 2 Solution.—Silver Nitrate 1, Strong Solution Ammonia 1, Distilled Water to 8. Use as last ipe.

**phthalmic Discs of Silver Nitrate** contain $\frac{1}{500}$ grain in each combined with gelatin.

**igmentum Argenti Nitratis Æthereum,** L.H.

Silver Nitrate 20 grains, Distilled Water 1 drachm, irit of Nitrous Ether to 1 ounce. Convenient as a gment for greasy skin.

Gonorrhœa treated by solution of nitrate of silver (10 ains to the ounce), applied on a mop of cotton wool the inflamed part of urethra through an endoscopic be.—L.i., 92,461. Cocaine nitrate may be added.

Injections of weak solution into the bladder useful in cystitis.—B.M.J.E. ii./92,38.

**Argentamine.** ETHYLENE-DIAMINE-SILVER PHOSPHATE.

A solution of silver phosphate in ethylene-diamine solution, corresponding in strength of silver to a 10 per cent. solution of the nitrate. A colourless alkaline liquid, antiseptic and germicide, without the styptic effect of silver nitrate. Is recommended in injections for gonorrhœa, used in 1 in 2,000-4,000 solution.—B.M.J.E. ii./95,20.

In eye surgery is preferable to lunar caustic.—B.M.J.E.ii./96,64.

Alternate use of Argentamine and Hydrogen Peroxide Solution in gonorrhœa.—Therap. 1900,12.

Seems to be better than Silver Nitrate.—Therap. 1900 217,235.

**Argonin.**

A compound of silver nitrate and casein-soda, in white neutral powder, slightly soluble in water. It is antiseptic and destructive to bacteria, without the caustic action of silver nitrate, and solutions 1 to 10 per cent., are recommended for injection in gonorrhœa. Solutions should be made by heating in a water-bath and filtering through glass wool.—P.J. i./95,1193 ; ii./95,365 ; B.M.J.E. ii./95,43,44 ; ii./96,64 ; M.C. 97,290 ; Pr. lx. 219.

Solubility of Argonin, Airol and Protargol increased and decomposition prevented by addition of glycerin, in making aqueous solutions in the cold.—P.J. i.00,364.

Gonorrhœa of women, useful.—B.M.J.E. ii./98,3.

Conjunctivitis, a one-half per cent. lotion for.—B.M.J.E. ii./98,12.

**Argonin L.**

A form of above soluble in water, contains 10 per cent. silver. Used externally as antiseptic. Internally 10 Cc. (170 m.) of a 1 per cent. solution as an injection for acute gonorrhœa.—P.J. ii./00,775.

**Collargol,** Colloid Silver. — *Syn.* ARGENTUM COLLOIDALE.

*Dose.*—$\frac{3}{8}$ to 2 grains (0·025 to 0·15 Gm.) in pills or solution.

In black shining scales, soluble 1 in 25 of water. Used as a bactericide, 1 in 100 to 10,000 in equal parts of glycerin and white of egg or aqueous Solution.

intment 15 per cent. For eczema, syphilis and norrhœa, and internally for infectious catarrh of omach or intestines.

**chthargan.** Silver Thio-hydrocarburo-sulphonate.

A powerfully antiseptic odourless brown powder ntaining 20 per cent. silver, soluble in water and ycerin.—P.J. ii./00,371 ; i./01,138.

**argin.**

A silver-albumen compound containing 11·10 per cent. silver. Dissolves in water to the extent of 10·5 per cent., nd is also freely soluble in glycerin, blood serum and olutions of peptone. It is used as an anti-gonorrhoic, nd a 1 in 4,000 solution has been found to destroy onococci in about five minutes, and all bacteria in ten inutes.—P.J. ii./98,435 ; i./00,413.

Largin useful in 10 per cent. Solution in acute ontagious ophthalmia.—Therap. 1900,115.

Eye diseases, of great use for.—B.M.J. i./00,622.

Ophthalmic blenorrhœa relieved.—B.M.J.E. i./00,68.

**Protargol.**

A proteid compound, containing 8 per cent. of silver, asily soluble in water. Useful in gonorrhœa as a painss bactericide.—L. i./98,872 ; Pr. lx. 310 ; B.M.J.E. /98,40. For middle ear disease.—Pr. lxvi. 449.

For conjunctivitis.—B.M.J.E. ii./98,40.

Solutions (¼ to 4 per cent. the strengths employed), re prepared by rubbing the powder into a paste with water and diluting as required with cold or lukewarm not hot) water. For wounds and ulcers up to 5 per ent. is used. Ointments 5 to 10 per cent.

Protargol in purulent affections of the eye and achrymal sac.—Therap. 1899,271.

100 cases of urethritis gonorrhœica anterior acuta reated with Protargol.—Therap. 1900,49.

**Liquor Protargol, R.O.H.** 10 to 40 in 100. Useful in various forms of Ophthalmia.

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## ARSENIUM.

### Metallic Arsenic.

**Acidum Arseniosum, Arsenious Anhydride** (*Off.*). *Syn.* Arsenic ; White Arsenic (Arsenious Acid, B.P. 1885).

*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·0043 Gm).

Arsenious anhydride, obtained by roasting arsenical ores. This is the most generally used preparation of arsenic; much used for skin diseases.

**Tablets,** $\frac{1}{100}$, $\frac{1}{50}$ and $\frac{1}{20}$ grain.

**Antidotum Arsenici,** Antidote to Arsenic. P.Dan. and others. U.S., P.G.ii., P.Helv. and P.Jap. use Ferric Sulphate.

Ferric Chloride 3 (or Strong Solution of Ferric Chloride B.P. 3), Water 17. When required for use, add this solution to Calcined Magnesia 1, previously mixed with Water 19, and shake well. Should be freshly prepared, and given in doses of a tablespoonful every 5 or 10 minutes, until the symptoms are relieved. Ferric Hydrate should be administered in at least 12 times the quantity of the Arsenic supposed to have been swallowed. The Antidote contains about 2½ per cent. of the hydrate.

**Liquor Arsenicalis, Fowler's Solution** (*Off.*).

*Syn.* LIQUOR POTASSÆ ARSENITIS.

*Dose.*—2 to 8 minims (0·12 to 0·48 Cc.). Contains 1 per cent. of arsenious anhydride.

Valuable in chorea; should be given to limit of toleration.—L. ii.,'92,19,909.

Of great value in diabetes, after sugar reduced by dieting and codeine. Should be given regularly for at least 3 months, restrictions in diet being gradually removed. Also in asthma, especially in that of children and old emphysematous people.—L. i. '93,407.

**Liquor Arsenici Cinnamylicus cum Opio** (Hoff.).

*Dose.*—6 drops, increased, twice a day after meals.

Arsenious Anhydride 1, Potassium Carbonate 2, Cinnamic Acid 3, Distilled Water 5, heat to dissolve. Add Cognac 25, Extract of Opium 3, dissolved in Distilled Water 25. Filter, and wash filter with more water to produce 100. Used as a phthisis cure; is the same strength as **Liquor Arsenicalis** in arsenic and about one-fifth weaker in opium than tincture of opium.

**Liquor Arsenici Hydrochloricus** (*Off.*).

*Dose.*—2 to 8 minims (0·12 to 0·48 Cc.) Contains 1 per cent. of arsenious anhydride. Is compatible with acid mixtures.

De Valangin's Mineral Solvent was one-third the strength of the above.

**Liquor Arsenici Bromatus, Bromated Solution of Arsenic.**—*Syn.* CLEMENS' SOLUTION OF ARSENITE OF BROMINE.

*Dose.*—1 to 5 minims (0·06 to 0·3 Cc.), once or twice a day.

Potassium Carbonate 1, Arsenious Anhydride in powder 1, Distilled Water 80. Boil until dissolved. When cooled, add Bromine (by weight) 2, and Distilled Water, *q.s.* to 100. Heat until decolorised. A solution of potassium arsenate and bromide is formed. Useful in pilepsy and diabetes with careful diet.—B.M.J. i./85, '01; Jour.Am.Med.Assoc. iii./84,34.

Arsenious anhydride is also administered in pilules. It should be well and carefully triturated with milk sugar before any liquid excipient is added. Those containing $\frac{1}{20}$, $\frac{1}{30}$, $\frac{1}{60}$, $\frac{1}{100}$, and $\frac{1}{120}$ grain are generally kept made. To increase its tonic effect it is often combined with iron, as in

**Pilula Ferri Arsenicalis.** *Dose.*—1, 3 times a day.

Arsenious Anhydride, in fine powder $\frac{1}{30}$, Exsiccated Ferrous Sulphate 3, Syrup $\frac{1}{2}$; in grains, for one pill; in grammes, for fifteen.

The combination of arsenic and sulphate of iron the most efficacious treatment in chlorosis and anæmia.—L. i./93,404.

**Tablets**, of Arsenious Acid $\frac{1}{64}$ grain and Blaud's Pill 4 grains. *Dose.*—1 to 4.

**Granula Dioscoridis.** (P. Dan. and Codex).

Contains 1 milligramme Arsenious Anhydride, with Milk Sugar and Manna, of each 0·02 gramme. *Dose.*—1 to 5.

**Pilula Asiatica.** (Codex.) *Dose.*—1 or 2 daily.

Arsenious Anhydride, $\frac{1}{13}$ grain (0·005 Gm.), Black Pepper $\frac{3}{4}$ grain (0·05 Gm.), Gum Acacia *q.s.*

**Levico Water** is strongly chalybeate and arsenical; "**Levico Strong**" contains $\frac{1}{12}$ grain arsenious anhydride per pint, with 30 grains of iron salts, and "**Levico Mild**" $\frac{1}{120}$ grain arsenious anhydride, with 8 grains iron salts. *Dose.*—Half an ounce, diluted, beginning with the milder.—L.i./90,748; P.J. 1890,810.

**La Bourboule** contains $\frac{1}{13}$ grain arsenious anhydride per pint, and a mere trace of iron.

**Pasta Arsenicalis. Arsenical Paste.** For dental nerve. After use, plug with Chloroform and Mastiche.

Arsenious Anhydride, levigated, 30, Plaster of Paris 15, Morphine Sulphate, 20, Cocaine 5, Eosine ½. Mix and add Oil of Cloves 5, Phenol 25.

**Pulvis Arsenici Escharoticus. Arsenical Powder** (Cazenave). Arsenious Anhydride, levigated 1, Mercuric Sulphide (Cinnabar) 5, Animal Charcoal 1. Used as a caustic, formed into a paste with water.

**Arsenii Iodidum, Arsenious Iodide** (*Off.*).

*Dose.*—$\frac{1}{20}$ to $\frac{1}{5}$ grain (0·0032 to 0·013 Gm.), in a pill.

The two elements by direct combination form small orange-coloured crystals, readily and almost entirely soluble in water and in alcohol. Solution 1 per cent., 1 to 10 drop doses in milk, useful for lymphatic and scrofulous children, has marked iodine effect.

**Liquor Arsenii et Hydrargyri Iodidi** (*Off.*).

*Syn.* DONOVAN'S SOLUTION.

Contains Arsenious Iodide and Mercuric Iodide, of each 1 per cent. *Dose.*—5 to 20 minims (0·3 to 1·2 Cc.).

Given for syphilitic skin diseases.

**Pilula Arsenii et Hydrargyri Iodidi** contains $\frac{1}{12}$ grain (0·005 Gm.) of each salt = 9⅙ minims of the solution. *Dose.*—1 or 2, *v.p.*266.

**Cupri Arsenis. Copper Arsenite; Pure Scheele's Green.**

*Dose.*—$\frac{1}{100}$ to $\frac{1}{25}$ grain (0·00065 to 0·0026 Gm.).

A pale green amorphous powder, recommended for various intestinal affections, cholera morbus, cholera infantum, diarrhœa, dysentery, and typhoid.—Dose for adults, $\frac{1}{5000}$ to $\frac{1}{3000}$ grain every 10 minutes for an hour, then hourly; for children, half this quantity. Small repeated doses essential. For chlorosis and functional anæmia, $\frac{1}{50}$ to $\frac{1}{25}$ grain thrice daily successful.—Th. Gaz. 1889,459; 1891,27,97; 1892,30; Ed. M.J. 1890,550; P.J. 1890,247; B.M.J.E. ii./90,48; i./91,27; i./92,48.

**Ferri Arsenas** (*Off.*). *Dose.*—$\frac{1}{16}$ to ¼ grain (0·004 to 0·016 Gm.) in a pill.

Useful in night-sweats.—L. ii./94,1023.

**Quininæ Arsenas,** *v.p.*412.

**Sodii Arsenas** (*Off.*). *Dose.*—$\frac{1}{40}$ to $\frac{1}{10}$ grain (0·0016 to 0·0065 Gm.)

Sodium Arsenate crystallizes with either 7 or 12 molecules of water and is efflorescent as well, the proportion of arsenic it contains is therefore uncertain. It is now official in the anhydrous state, in white powder, dried at 300° F.

**Liquor Sodii Arsenatis** (*Off.*).

*Dose.*—2 to 8 minims (0·12 to 0·48 Cc.). 1 per cent. Is about ten times the strength of Pearson's Solution of Arsenic (Codex), which is much used on the Continent; the latter contains 1 of crystallized arsenate in 600 of water.

**Arsenical Cigarettes** are made of paper impregnated with sodium arsenate, so that each contains $\frac{3}{4}$ grain (0·05 gramme) of the salt. The patient ought to inspire the fumes deeply three or four times.—L. ii./81,83.

**Strychninæ Arsenas,** *v.p.*446.

**Acidum Cacodylicum.** Cacodylic Acid.

Has recently been much employed in medicine, particularly in France. It is the ultimate product of oxidation of arsenium-dimethyl (cacodyle), and of cacodyle oxide. It occurs in the form of small colourless deliquescent crystals, and although containing 54·4 per cent. arsenium, equivalent to 71·4 per cent. arsenious acid, it is relatively non-toxic. The following compounds are used:—

**Ferric Cacodylate.** *Dose.*—$\frac{3}{4}$ to 5 grains (0·05 to 0·32 Gm.) *per os* per diem, or $\frac{1}{2}$ to $1\frac{1}{2}$ grains (0·03 to 0·1 Gm.) hypodermically per diem.

In yellowish-white powder, used for anæmia and chlorosis.—P.J. ii./oo,486.

**Guaiacol Cacodylate.**—*Syn.* CACODYLIACOL.

*Dose.*—$\frac{1}{2}$ to 2 grains (0·03 to 0·13 Gm.) *per os* or hypodermically in affected regions for tuberculosis.

In whitish granules with alliaceous odour combined with that of guaiacol.—P.J.i./oo,246; C.&D.i./oo,932.

**Sodium Cacodylate.**

*Dose.*—Average per rectum and hypodermically $\frac{1}{2}$ to 1 grain (0·03 to 0·065 Gm.) *v.p.*86.

The salt contains 46·8 per cent. of arsenium, equivalent to 61·8 per cent. arsenious acid. That in commerce usually contains 18 to 25 per cent. of water. It frequently contains some uncombined cacodylic acid, and should therefore be carefully examined, and solutions of this deliquescent salt should be standardised.

**Elixir Sodii Cacodylatis.**

Elixir of Sodium Cacodylate (standardised).

*Dose.*—30 minims (equivalent to ½ grain of the salt).

**Pills** contain ½ grain (**0·03 Gm.**).

*Dose.*—1, three or four times a day, but when given by the mouth or per rectum the drug may cause renal congestion with albuminuria and fall in the quantity of urine excreted, this Gautier has proved experimentally on himself.

**Hypodermic Injection.** A sterile preparation is made and standardised to contain 0·05 Gm. (¾ grain) of Cacodylic Acid in 1 Cc. (17 minims) an average dose once in 24 hours. This dose per day should not be exceeded.

**Glass Capsules** (sterile) containing the average dose of this standardised injection are prepared and are convenient for use.

Further, Gautier employs an injection of the same strength of Cacodylic Acid, but containing in addition a small quantity of Cocaine Hydrochloride and Creosote as preservative. Cacodylic Acid 5 Gm., neutralise with Sodium Carbonate in the presence of phenolphthalein, add Cocaine Hydrochloride 0·08 Gm., Creosote 5 drops (dissolved in a little alcohol), and boiled Distilled Water, *q.s.* to 100 Gm.

Gautier gives at the same time small doses of Potassium Iodide (0·1 to 0·15 Gm. per diem) on the grounds of his discovery that iodine accompanies arsenic in animal and vegetable life.

**Rectal Injection.** The dose is similar to that of the hypodermic method, but more dilute—½ to 1 grain in 1 to 4 drachms of water (conveniently prepared by diluting the contents of one of the capsules above.)

Sodium Cacodylate has been employed in tuberculosis, phthisis, and consumptive cases generally, in diabetes mellitus, exophthalmic goitre, pernicious anæmia, cancer (particularly of the stomach), malaria, chorea, and in all cases in which arsenic has been used.

The cure of tubercle is slow, and if fever be present it will only fall a few tenths of a degree per month. If there is loss of appetite this always returns after the ird or fourth injection of a dose of 0·03 to 0·05 Gm. the salt while the patient's weight and strength crease. On the whole the hypodermic method of ministration — regularly every day for a week, suming after a break of a week or so, and so on— ay therefore be most advocated, though even this uses the patients to give off an alliaceous odour.— .M.J. i./01,120; B.M.J.E. ii./99,15 64; B.M.J. i./01, 0; L. ii./99.1408; L. i./00,1446; P.J. ii./00.724.

Should be used with caution.—B.M.J. ii./00,1823.

Chorea, good results in.—B.M.J.E. i./01,52.

## ASPARAGIN.

*Syn.* ALTHEIN. *Dose.*—1 to 2 grains (0·065 to 0·13 Gm.).

In hard crystals, which are transparent colourless right hombic prisms, having a slightly acid reaction.

May be obtained from *Asparagus officinalis*, and the oots of marshmallow, liquorice, belladonna, &c. Soluble 1 in 50 of cold water, dissolves in acid and alkaline solutions. Insoluble in absolute alcohol and ether.

An aqueous solution dissolves mercuric oxide, and is ecommended for hypodermic injection in syphilis.—B.M.J.E. i./92,52. *V.p.*

For cardiac dropsy and chronic gout one grain is given three times a day as a diuretic in combination with bromide of potassium.—P.J. 1870,243.

## ATROPINA (*Off.*).

### Atropine.

*Dose.*—$\frac{1}{200}$ to $\frac{1}{100}$ grain (0·00032 to 0·00065 Gm.), increased to $\frac{1}{10}$, or in acute mania to $\frac{1}{8}$ grain or more.

An alkaloid obtained from *Atropa Belladonna*. It is generally in hard white acicular prismatic crystals or crystalline masses, strongly alkaline, soluble 1 in 500 of water, 1 in 3 of 90 % alcohol, 1 in 36 of ether, 1 in 1 of chloroform, 1 in 40 of olive oil, very soluble in glycerin and oleic acid. Melts at 239° to 240° F. Being so insoluble in water, it is not suitable for internal use, generally given as a sulphate.

The mydriatic alkaloids, Atropine, Hyoscyamine, and Hyoscine, are contained as follows:—Atropine in Atropa

Belladonna* and Datura Stramonium; Hyoscyamine in Atropa Belladonna, Datura Stramonium, Duboisia myoporoides, and Hyoscyamus niger†; and Hyoscine‡ in the last two plants. Duboisine is nearly pure hyoscine. Pure atropine and pure hyoscyamine are omeric. So are hyoscine and atroscine, *v.p.*282. By e action of baryta water both Atropine and Hyoscya- ine split up into Tropic Acid and Tropine. Hyoscine d Atroscine split up into Tropic Acid and Oscine. erapeutically, Hyoscine possesses about five times the lmative power of Atropine or Hyoscyamine.

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* It has since been shown that atropine, instead of existing as such in these plants, is a conversion product of hyoscyamine or "light atropine," formed during the process of manufacture, and that pure hyoscyamine may be converted into "heavy atropine" by melting under reduced pressure, or by the addition of a trace of caustic soda to its alcoholic solution. Pure atropine melts at 115°–116° C., and is optically inactive; pure hyoscyamine melts at 108°–109° C., and is lævogyrate: $[\alpha]_D = -21^\circ$. Hyoscyamine is also found in Scopola root (*v.pp.*282,484) and lettuce, *Lactuca sativa* and *L. virosa*.—P.J. 1891,449. The addition of auric chloride to an aqueous solution of atropine gives a citron yellow precipitate, which when recrystallised from boiling water acidulated with hydrochloric acid has a minutely crystalline character, and when dry a dull pulverulent appearance. Hyoscyamine similarly treated yields golden scales.

Hesse points out that (1) Atropine is optically inactive. (2) The rotary power of the base atropine of commerce diminishes on keeping. (3) The optical activity of commercial atropine is due to the presence of hyoscyamine as impurity. (4) Commercial atropine sulphate does not alter in rotary power on keeping. (5) The atropine of atropine-gold-chloride containing any hyoscyamine-gold-chloride is converted back into hyoscyamine on keeping. Further that hyoscyamine sulphate does not alter when kept but the rotary power of the base hyoscyamine diminishes. The rotation of the salt $= -28^\circ{\cdot}2$ and from this the amount of hyoscyamine sulphate present in two commercial varieties of atropine sulphate was found to be 3·8 and 38·3 per cent. respectively. The varying action of atropine sulphate observed by oculists is therefore intelligible. —P.J. i./00,116.

Gadamer says the conversion (?) of atropine-gold-chloride into hyoscyamine-gold-chloride is *impossible*.—o/11/00.

Gadamer's reply to Hesse concerning solanaceous alkaloids. —Annalen vol. cccx., 352 (1899).

† Formerly the terms Atropine and Hyoscyamine were applied to the "heavy" and the "light" mydriatic alkaloids obtained from *Atropa Belladonna* and *Hyoscyamus niger* respectively, but seeing that the product from either source may be chemically either atropine or hyoscyamine, according to the process of manufacture, the commercial tendency now is to adopt and apply the term hyoscyamine to the alkaloid as above described, irrespective of its botanical source.

‡ Scopolamine and Belladonnine are two other atropaceous alkaloids, the former described by Schmidt, *v.p.*281. The hyoscine above referred to consists, according to him, of a mixture of normal ($[\alpha]_D = -21{\cdot}43$) and optically inactive scopolamine; and scopolamine, he says, is isomeric with cocaine, not with atropine and hyoscyamine.—P.J. 1890, 890; 1891,267; 1892,1021, *ex* Archiv. der Pharm. vol. 230, p. 207, *v p.*282

Tropine and tropic acid may be recombined under rtain conditions to form Atropine, or tropine may be mbined with other acids such as salicylic or mandelic id to form salts. These salts when treated with uted hydrochloric acid form a class of artificial kaloids, to which the generic name of *tropeines* is ven. One of these so produced from the mandelate tropine is **Homatropine** or oxytoluyltropeine. is body, like Atropine, forms salts with acids.—ebig's Annalen, vol. ccvi.307, *v.p.*93.

Atropine and its salts are used for ophthalmic purposes dilate the pupil and to paralyze the accommodation. ven internally or hypodermically, they are antagonistic opium and morphine, Calabar bean and physostigmine, borandi and pilocarpine, aconite and aconitine, musca- ne, bromal, and hydrocyanic acid. Physiologically, hilst it acts as a 'stimulant' to a large part of the ntral nervous system, it paralyses many of the nerves. Poisoning by atropine successfully treated by pilocarpine. -B.M.J. i./80,366; i./81,300; i./90,420; L.i./81,951.

**tropine Salicylate** and **Valerianate** are also used.

The solution of the salicylate is said to have special vantages in not undergoing change by keeping. Solu- le 1 in 20 of water.—Br. i./81,lxii.

**iquor Atropinæ Salicylatis (Charing Cross Hospital).**—Atropine ½ grain, Salicylic Acid ¾ grain, Water 1 ounce.

**tropinæ Sulphas** (*Off.*).

*Dose.*—$\frac{1}{200}$ to $\frac{1}{100}$ grain (0·00032 to 0·00065 Gm.) creased to $\frac{1}{16}$, or in cases of acute mania ⅛ grain.

In opaque white minute crystals, soluble 2 in 1 of ater. Melting point 361·4° F. (P.G. 356° F.).

**amellæ Atropinæ, Discs of Atropine** (*Off.*).

Contain $\frac{1}{5000}$ grain (0·000013 Gm.) of the sulphate each, combined with gelatin, for dilating the pupil; hers containing $\frac{1}{500}$ (R.O.H.) and $\frac{1}{250}$ grain paralyse e accommodation. Also prepared containing combined

Atropine Sulphate $\frac{1}{1000}$ grain with Cocaine Hydrochloride $\frac{1}{200}$ grain, (R.O.H. has Atropine $\frac{1}{200}$ Cocaine $\frac{1}{100}$ grain, and Atropine Sulphate $\frac{1}{5000}$ grain with $\frac{1}{500}$ grain of Morphine respectively).

**Hypodermic Lamels** contain $\frac{1}{120}$ and $\frac{1}{100}$ grain in each, and also $\frac{1}{120}$ grain combined with Morphine Acetate $\frac{1}{4}$ grain.

**Injectio Atropinæ Hypodermica.**

Atropine sulphate 4 grains, to the ounce of distilled water. *Dose.*—1 to 2 minims, or more.

**Injectio Morphinæ et Atropinæ Hypodermica.** —See Morphina, *p.*332.

**Liquor Atropinæ Sulphatis** (*Off.*).

*Dose.*—$\frac{1}{2}$ to 1 minim (0·03 to 0·06 Cc.), or more.

Atropine Sulphate 1, Salicylic Acid 0·12, Distilled Water *q.s.* to 100. The addition of salicylic acid is objected to by oculists.

Is much used for ophthalmic purposes. In many cases in which it is used for the eye this solution is much too strong, as it is apt to produce glaucoma.—B.M.J. ii./82,93,178,193.

**Guttæ Atropinæ Sulphatis.** **R.O.H.**, $\frac{1}{4}$, $\frac{1}{2}$, and 1 per cent.

**Guttæ Atropinæ cum Cocaina R.O.H.**

Atropine Sulphate 0·5, Cocaine Hydrochloride 2, Distilled Water 100.

Atropine eye-drops may cause hyper-pyrexia.—B.M.J. i/95,1375.

**Linimentum Atropinæ.**

Atropine 1 (more or less, if ordered), Oleic Acid 15, Castor Oil 15, Oil of Lavender 1, Alcohol (90 per cent.) *q.s.* to 100.

In lumbago and other rheumatic affections is very serviceable used with gentle friction; it is readily absorbed.

**Oleatum Atropinæ.**

Atropine 5, Oleic Acid 200. Heat in a water bath till dissolved. Perfume with otto of rose, or lavender, if preferred. Useful to paint on painful parts.

**Oleum Atropinæ R.O.H.**

Atropine 1, Castor Oil *q.s.* to 100. Heat to dissolve.

**Pessaries of Atropine** are prepared with gelatin mass or at times with oil of theobroma, containing generally about $\frac{1}{20}$ grain of the alkaloid in each.

**lula Atropinæ**, $\frac{1}{120}$, $\frac{1}{100}$, $\frac{1}{80}$, $\frac{1}{60}$ grain in each. Taken at bedtime, to check night-sweating. Is apt to se dryness of the throat.

**ula Atropinæ, Arsenici et Quininæ.** Quinine sulphate 18 grains, solution of arsenic 12 ims, solution of atropine sulphate 1 minim, extract gentian 20 grains, and acacia *q.s.* to make 12 pills. catarrh, if taken in early stage, one every 3, 4, or ours, nip it in the bud.—Pr. xxxviii.179.

**nguentum Atropinæ** (*Off.*). Atropine 1, Oleic Acid (by weight) 4 (1 grain = 2 ps), heat gently to dissolve, and add lard 45.

**guentum Atropinæ, R.O.H.** Atropine 1 or 2, Soft Paraffin 100; heat till dissolved. **Unguentum Atropinæ cum Acido Borico,** R.O.H., has Atropine 1, powdered Boric Acid 15, Soft Paraffin 100; and **Unguentum Atropinæ cum Cocaina,** R.O.H., has Atropine 1, Cocaine (alkaloid) 2, in Soft Paraffin 100. **Unguentum Hydrargyri Oxidi Flavi cum Atropina,** R.O.H., has Yellow Mercuric Oxide 1, and Atropine 0·5, Soft Paraffin 100. **Unguentum Iodoformi cum Atropina,** R.O.H., has precipitated Iodoform 15, in place of the Mercuric Oxide in last preparation.

**aselinum Atropinæ.** Atropine (pure alkaloid) 1, Vaseline 120. Heat carefully till dissolved. Atropine sulphate is t soluble in vaseline.

This forms a definite, convenient, and economical de of applying atropine to the eye. A little may be aced within the lower lid. It produces no irritation. r some purposes it will bear dilution.—Br. ii./82,xci.

Atropine and belladonna either given internally, hypormically, or used externally, diminish perspiration, and ill check this when excessive, as in the night sweats of thisis and other wasting diseases; should be used cally for profuse sweating of the hands, feet, or other rts; also for leucorrhœa and uterine discharges. They kewise check the secretion of milk and saliva, and antanise such drugs as jaborandi, opium, Calabar bean, uscarine, aconite, bromal, and prussic acid.—R.

In night-sweating, $\frac{1}{200}$ to $\frac{1}{80}$ grain may be increased $\frac{1}{25}$ grain, taken at bedtime. Is apt to cause dryness of the throat, and is not so useful for this purpose as picrotoxin or pilocarpine.—Pr. ix.91,224; Pr. xxiii.93.

Causes sleep in acute mania in dose of $\frac{1}{4}$ to 1 grain of sulphate.—Pr. xviii.166; R.

Physiological experiments on antagonism to morphine.—Pr. xviii.356.

Antagonism to pilocarpine.—L. ii./79,479, *v.p.*308.

One grain of sulphate of atropine subcutaneously injected cured a case of poisoning by laudanum (equal to 12 grains of opium).—L. i./78,354; B.M.J. i./78,267. Another case.—L. i./79,843.

A case of poisoning by $2\frac{1}{2}$ grains of sulphate of atropine was cured by 16 centigrammes of hydrochlorate of pilocarpine given in centigramme doses every 5 or 10 minutes.—B.M.J. i./80,366; P.J. 1880,771. Poisoning by $3\frac{1}{2}$ grains; recovery after emesis.—B.M.J. i./89, 1051. Other cases treated with morphine.—L. ii./89, 1003; L. i./90,1311; B.M.J. i./90,1440; B.M.J.E. ii./92,80.

Use of hypodermic injection previous to the administration of chloroform as an antidote to the cardio-inhibitory effects of chloroform.—B.M.J. ii./80,620,715,761; M.C. May 1890,128. Prevention of shock by injection before ether anæsthesia.—Th. Gaz. 1889,239.

Atropine $\frac{1}{20}$ grain is antagonistic to 1 grain of morphine. In cases of poisoning small doses should be frequently injected hypodermically, and the poison eliminated by drawing off the urine with a catheter frequently.—B.M.J. i./81,239; Pr. xxvi.128.

In lead poisoning, full doses of atropine relieve the colic and head pain, keep bowels open, and assist in return of bodily powers.—L. ii./91,1161; P.J. 1891,429.

In iritis Atropine is indicated, in glaucoma Eserine.—Pr. xxxi.321.

In poisoning by opium atropine injection $\frac{1}{60}$ grain, may be tried as a last resort.—B.M.J. i./84,605; L. i./96,548; P.J. i./96,250.

Hæmoptysis is checked by hypodermic injection of atropine.—B.M.J. ii./87,521; Th. Gaz. Feb. 1889,101.

Cholera successfully treated by injection of atropine.—L. i./93,1443; Pr. li.59.

Symptoms of belladonna poisoning from use of atropine eye-drops.—L. i./98,99.

ropine a valuable antidote in fungus poisoning.—
i./99,197.

**matropine** (*v.p.*89) and its Salts, **Hydrobromide, Hydrochloride, and Salicylate,** are in
minute granular white crystals. Their solutions act
as quick and decided local mydriatics, the pupil
rapidly returning to its normal condition, but
Homatropine, it is said, includes none of the
poisonous properties of atropine. The salts are freely
soluble in water; Homatropine (the base) is nearly insoluble in water, but soluble in oils, or 1 in 100 of
vaseline. *Dose of each.*—$\frac{1}{120}$ to $\frac{1}{20}$ grain (0·0005
to 0·0032 Gm.).

**um Homatropinæ.** A 2 per cent solution in
castor oil, by weight, dissolved by heat.

**um Homatropinæ cum Cocaina,** contains in
addition 2 per cent of cocaine. R.O.H. has 10
grains of each to the ounce, which is practically
the same strength as this.

hese oily solutions have the advantage, when
pped into the eye, of not being washed out by the
s, nor do they give rise to oil-globules on the
ea, like vaseline solutions.—M.T.G. ii./85,73.

omatropine oil recommended in preference to
pine in estimating lesions of refraction; inconvenience
mydriasis may be partially overcome by eserine
tion.—M.T.G. ii./85,73.

**matropinæ Hydrobromidum** (*Off.*).

n minute trimetric crystals, soluble 1 in 6 of water,
133 of alcohol. Is the salt mostly used. *Dose.*—
to $\frac{1}{20}$ grain (0·0008 to 0·0032 Gm.).

**ttæ Homatropinæ, R.O.H.,** 1 in 100.

**ttæ Homatropinæ cum Cocaina, R.O.H.**
omatropine Hydrobromide 1, and Cocaine Hydro-
oride 2 in 100.

**ectio Homatropinæ Hypodermica,** 1 in 120,
s used. *Dose.*—1 to 6 minims (0·06 to 0·35 Cc.),
ncreased.

**mellæ Homatropinæ** (*Off.*) R.O.H. contain $\frac{1}{100}$
rain (0·00065 Gm.) of Homatropine Hydrobromide,
nd R.O.H. has combined Homatropine and Cocaine
$\frac{1}{50}$ grain of each.

**Oleum Homatropinæ cum Cocaina, R.O.H.**
Homatropine 2, Cocaine 2, Castor Oil *q.s.* to 100. Heat to dissolve.

**Ophthalmic Discs** are also prepared containing $\frac{1}{5000}$ grain Homatropine in each, likewise $\frac{1}{5000}$ grain, of Homatropine combined with $\frac{1}{200}$ grain of Cocaine and $\frac{1}{200}$ grain Homatropine with $\frac{1}{200}$ grain of Cocaine in each respectively.

Gelatin discs of **Homatropine and Cocaine. R.O.H.** (each $\frac{1}{50}$ grain), are in demand for paralysing the accommodation. Preferable to aqueous or oily solutions.—B.M.J.E. ii./91,72.

The mydriatic and general physiological properties of the Hydrobromide of Homatropine resemble, but in a weaker degree, those of atropine, excepting that it slows the heart's beats and renders them irregular in force and rhythm.—L. i./80,795.

Action in checking night-sweating inferior to atropine and picrotoxin. Large doses cause staggering gait, like atropine.—Pr. xxv.252.

It enlarges the pupil and paralyses the ciliary muscles as quickly and thoroughly as an equally strong solution of atropine; but the effects of Homatropine disappear entirely in twelve to twenty-four hours, while the effect of atropine continues for many days, and while it lasts the patient is disabled from reading and writing.—B.M.J. i./82,523.

A 1 per cent. solution as eye-drops for muscular asthenopia.—L. ii./99,960; B.M.J. ii./99,765.

Delirium in child following instillation of $\frac{2}{15}$ grain into eyes.—L. i./92,819.

Comparative value of the mydriatics Homatropine, Cocaine, Ephedrine, and Euphthalmine.—P.J. i./99,46.

**Ephedrine Hydrochloride.**

The salt of an alkaloid from *Ephedra vulgaris var. Helvetica*, in shining white crystals; very soluble in water; 5 to 10 per cent. solution possesses mydriatic properties.—L. ii./98,24; B.M.J.E. ii./98,92.

**Mydrine.**

Under this name a mixture of homatropine and ephedrine, in the proportion of 1 to 100, has been used for producing mydriasis, 10 per cent. solutions being employed. Acts quickly, but its effect is not lasting, and roduces a slight burning pain.—B.M.J.E. ii./96,32; i./98,24,173.

**phthalmine.** The hydrochloride of *n*-Methyl-vinyl-diacetone-alkamine (a mandelic acid derivative).

A synthetic preparation which dilates the pupil by tions of 5 to 10 per cent., causing but little dis- fort and the accommodation is but slightly dis- anged. Its action has been compared to that of natropine, but its effects pass off more quickly.— M.J.E. ii./98,24; B.M.J. ii./99,774; C. & D. 0,359.

**Guttæ Euphthalminæ, R.O.H.**, 2 in 100.

**Lamellæ Euphthalminæ, R.O.H.**, $\frac{1}{100}$ grain in h. Solutions 2–5 per cent. dilate the pupil sufficiently ordinary purposes, and do not irritate the conjunc- a.—Therap. 1899,326.

**Euphthalminæ** (the base) in snow-like crystals, ghtly soluble in water, dissolves in Castor Oil; a 2 per nt. solution is used as a mydriatic.

Fifteen cases of ophthalmia treated with Euphthalmine, ults satisfactory. 2 per cent. to 6 per cent. solutions d. Chemically it is closely allied to β-eucaine. Eka- loform vaseline was used as the antiseptic application. Therap. 1901,14.

**Euphthalmine Salicylate**, a salt very readily able in water.—P.J. i./98,149.

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# AURANTIUM.

## Orange.

**qua Aurantii Floris** (*Off.*). *Dose.*—½ to 2 drachms (1·8 to 7 Cc.) of the diluted water.

Distilled from the flowers of *Citrus Aurantium*, var. *igaradia*. Is a saturated solution of the oil, and must diluted immediately before use with twice its volume distilled water.

**leum Neroli.** The oil obtained in the distillation of above flowers. Much used in perfumery. Dilution with twice its volume of absolute alcohol preserves it from oxidation.

**asta Gummosa.** Resembles *Pastilles de Guimauve.* Gum Acacia 800, Sugar in Powder 800, Water 400 *q.s.* Mix and evaporate with agitation to the consistence of honey; beat with White of Egg 600 and evaporate further, stirring constantly at a low heat until the mass does not run from the spatula; then mix in Oil of Neroli 1 (in Alc. *q.s.*). Cut or divide into **Pastoids** weighing 30 grains (2 Gm.) each. These form agreeable demulcents for throat irritation.

**Syrupus Aurantii Floris** (*Off.*).

Sugar 6, Distilled Water 2, Orange Flower Water, undiluted, 1. *Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

**Cortex Aurantii** (*Off.* and **Indicus, I.C. Add.**).

Dried and fresh outer peel of *Citrus Aurantii, var. Bigaradia*, the Bitter Orange (in India other varieties may be used if aromatic and bitter); from the fresh peel is now made

**Tinctura Aurantii** (*Off.*). 1 in 4 Alcohol (90 per cent.). *Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Tinctura Aurantii (B.P. 1885) Dried Peel 1, in Proof Spirit 10, is no longer official.

**Syrupus Aurantii** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Tincture of Orange 1, Syrup 7.

**Vinum Aurantii Detannatum, B.P.C.**

Gelatin 1, Orange Wine 640, macerate 14 days.

**Infusum Gentianæ Compositum Concentratum, B.P.C.** *Dose.*—30 to 60 minims.

A Tincture 1 in 2 is made of fresh Lemon Peel 2 ounces; Gentian 2, and Orange 2, in No. 20 powder are thrice macerated 24 hours in Distilled Water 20, and pressed (or macerated in Distilled Water 15 and percolated with more to obtain 40), the first pressings (or percolate) of 10 with the Tincture of Lemon added are set aside; remainder is concentrated to 5 and added to the portion set aside with Alcohol 90 per cent. *q.s.* to make 20. Is eight times strength of B.P. infusion.

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## AURUM.

**Auri Bromidum.** Auric Bromide.

*Dose.*—$\frac{1}{60}$ to $\frac{1}{10}$ grain (0·001 to 0·0065 Gm.), increased to $\frac{1}{5}$ grain, well diluted.

A brown, non-deliquescent powder, soluble in water.

In epilepsy and migraine, tolerated better than other bromides. Epileptics who have taken it sometimes remain for years free from attacks.—Rép. de Pharm. 1889, 163.

Good results in several cases of hysteria and epilepsy, en in doses of ⅕, increased to ½ grain or more.— i./90,869; Th. Gaz. 1890,356; Pr. xlv.301.

Therapeutic uses of gold salts:—In nervous dyspepsia, enorrhœa, chronic Bright's disease, nervous disorders, tigo; old syphilitic cases cured.—B.M.J. ii./91,1133.

Useful in alcoholic neurasthenia, but in some American old Cures' gold was absent.—B.M.J.ii./92,48,85; i. 92,106,285.

**uri et Potassii Bromidum** is more soluble, and has been used in epilepsy and hystero-epilepsy in doses of ⅙ to ⅔ grain hypodermically and internally.

**quor Auri et Arsenii Bromidi.**

Auric Bromide 1½ grains, Oxybromide of Arsenium grains (or Clemens' Solution, *v p.*83, 192 minims), stilled Water to 1 ounce. *Dose.*—5 to 10 minims 3 to 0·6 Cc.). Another formula.—P.J. ii./96,111.

**quor Auri et Hydrargyri Bromidi.**

Auric Bromide, Mercuric Bromide, of each 1½ grains, stilled Water to 1 ounce. *Dose.*—5 to 10 minims 3 to 0·6 Cc.).

Given for neurasthenia, epilepsy, syphilis, and acne.— Y. Med.J. 1893,435; Med. Ann. 1895,10.

**uri et Sodii Chloridum.** Gold and Sodium Chloride. (Codex, U.S. and P.G. iii.)

*Dose.*—$\frac{1}{30}$ to $\frac{1}{12}$ grain (0·0022 to 0·0054 Gm.), reased to ½ grain in a pill with kaolin ointment.

An orange-yellow crystalline, deliquescent powder, uble 1 in 2 of water; only partially soluble in alcohol. e Codex preparation contains a molecule of each salt mbined, containing 49·6 per cent. of metallic gold. e U.S. preparation is a mixture of equal parts by ight of the two salts; it yields 32·4 per cent. of ld, and that of P.G. 30 per cent. It is sometimes ed as a caustic, and given internally for syphilis. mbined with strychnine it is useful in neurosis.

Lupus successfully treated by hypodermic injection chloride of gold with cyanide of potassium; doses m $\frac{1}{1000}$ to $\frac{1}{100}$ grain of each.—B.M.J.E. i./91,166.

## BALSAMUM GURJUNÆ.

### Gurjun Balsam; Wood Oil.

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

A viscid balsam obtained from the trunk of the growing tree *Dipterocarpus turbinatus* and other species of this genus; imported from the East Indies. It is very fluorescent, has an opaque dingy, greenish grey colour seen by reflected light, yet is transparent and reddish brown in strong daylight; it has the weak aromatic odour and bitterish aromatic taste of copaiba without the acridity—has been used as an adulterant of copaiba. It is not completely soluble in either ether or alcohol; emulsified with mucilage of acacia, it is used with success like copaiba, for gonorrhœa; and, in the East, as a remedy for leprosy, an emulsion is made of equal parts of the balsam and lime-water, which is used freely as a liniment and given to the extent of 4 drachms three times daily.

As an expectorant, given with malt extract.—L. i. '90, 962: Pr. xlv.132: Th. Gaz. 1890, 100.

## BAPTISIN.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) in pill with mucilage. The purified extract of wild indigo, *Baptisia tinctoria*, powdered; of a light brown colour.

Is a mild laxative in small doses, and a powerful emetic and cathartic in large.

It is a moderately powerful hepatic and intestinal stimulant on dogs.—Pr. xxiii.337; B.M.J. ii./78,909.

**Tinctura Baptisiæ.** 1 of root in 10 of Proof Spirit.

*Dose.*—5 to 30 minims (0·3 to 1·8 Cc.).

## BEBERINÆ SULPHAS.

### Beberine Sulphate.

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.), in pills, with glycerin of tragacanth, or in aqueous solution (addition of aromatic sulphuric acid to this makes it agreeable in taste).

Is probably a mixture of the sulphates of beberine, nectandrine, and other alkaloids obtained from Bebeeru bark, the bark of *Nectandra Rodiæi*, or greenheart-tree. Is in dark brown scales with bitter taste, freely but not readily soluble in water, slightly in alcohol. A Hydrochloride of Beberine is also prepared, possessing similar properties and having a similar appearance. The pure salts crystallize with difficulty.

Used as a substitute for quinine in neuralgia, and as n antiperiodic. Very useful also in menorrhagia, 4-ain doses often repeated.—L. i./45,500 ; L. i./64,458 ; .J. 1867,27.

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## BELLADONNA.

### Deadly Nightshade (*Off.*).

All parts of the plant *Atropa Belladonna* yield the kaloids atropine and hyoscyamine.

Poisoning by belladonna is well treated by pilocarpine. .M.J. ii./93,12.

**Atropina**, *v.p.*87.

**Chloroformum Belladonnæ, B.P.C.**

| | |
|---|---|
| Belladonna Root, in No. 60 powder, | 20 ounces. |
| Strong Solution of Ammonia ... | 1½ ,, |
| Distilled Water ... ... ... | 20 ,, |
| Chloroform ... ... ... | *q.s.* |

Macerate the belladonna with the ammonia and water, reviously mixed, for 4 hours, dry, and again reduce to No. 0 powder. Macerate for 24 hours with 20 ounces of hloroform in a percolator provided with a tap, then ercolate slowly, adding more chloroform until 30 ounces re obtained. Mixes with oils ; 1 to 3 olive oil is useful or painful rheumatic affections.

**Collodium Belladonnæ**. — *Syn.* **Emplastrum Belladonnæ Fluidum, B.P.C.**

Alcoholic Extract of Belladonna Leaf 960 grains (or ufficient to yield ½ per cent. of alkaloid in the collodion), ectified Spirit 9 ounces, dissolve and add Pure Ether 9 unces. After 12 hours decant, dissolve in the mixture amphor 130 grains, Pyroxylin ½ ounce, and add ufficient spirit and ether, in equal volumes, to produce 0 ounces.

**Emplastrum Belladonnæ** (*Off.*).

Liquid Extract of Belladonna 4, evaporate to weigh 1 or less), and add Resin Plaster, previously melted, 5 (or .s. to 6). Contains 0·5 per cent. of the alkaloids of Bella-onna root.

Is much weaker than in B.P. 1885. Poisonous ymptoms from latter form.—B.M.J. i./99,849,952.

**Emplastrum Belladonnæ Extensum.**

Belladonna plaster in rubber combination spread on calico in porous sheets 7 in. by 5 in. and in yard rolls 7 in. wide, porous and non-porous (*American*).

Similar plasters are also prepared with belladonna and aconite combined.

**Plaster mulls** are spread containing 10 grammes of Extract of Belladonna in $\frac{1}{5}$ square metre, *r.p.*52s.

**Emplastrum Belladonnæ Viride, B.P.C.**

Mix Alcoholic Extract of Belladonna Leaf, *q.s.* = 11 grains of Alkaloids and Resin Plaster (melted) *q.s.* to 10 ounces. Contains 0·25 per cent. of Alkaloids, and is only half the strength of the B.P. Emplastrum Belladonnæ.

**Extractum Belladonnæ Viride** (*Off.*).

*Dose.*—"$\frac{1}{4}$ to 1 grain" (0·016 to 0·065 Gm.), increased to 2 grains or more.

A green extract prepared from the expressed juice of leaves and young branches.

As a prophylactic to scarlet fever, 10 grains of extract of belladonna, dissolved in 6 ounces of water, is given in teaspoonful doses.

Exophthalmic goitre, $\frac{1}{4}$ grain thrice daily of decided service.—Pr. 1.5.

**Extractum Belladonnæ Alcoholicum** (*Off.*).

*Dose.*—$\frac{1}{4}$ to 1 grain (0·016 to 0·065 Gm.).

Is prepared by concentrating the liquid extract of belladonna by evaporation and mixing with milk sugar, so that 20 of liquid extract yield 15 of product in powder. It contains 1 per cent. of the alkaloids of belladonna, and is only about one-third strength of preparation in B.P. 1885.

In commerce is very variable.—P.J. i./01,366,371.

**Extractum Belladonnæ Folii Alcoholicum, B.P.C.**

Solid extract made with alcohol 90 per cent., contains 5 per cent. of alkaloids. U.S. orders 2 parts alcohol and 1 water as solvent.

**Extractum Belladonnæ Liquidum** (*Off.*).

*Dose.*—$\frac{1}{3}$ to 1 minim (0·002 to 0·06 Cc.).

Belladonna root in No. 20 powder, 8 parts, is percolated in 4 successive portions with 30 parts of a mixture of Alcohol 7, Distilled Water 1; collecting 12$\frac{1}{2}$ parts of the final percolate. This is diluted with the menstruum, adjusting the strength so that the liquid extract shall contain 0·75 per cent. of the alkaloids of Belladonna root.

Acetic Acid as good an extractor of Belladonna Leaf
d Root as Alcohol. The acid preparation is lighter
colour, does not deposit (?) and does not precipitate on
ding to water. Other points on sixty Acetic Liquid
tracts by Squibb.—Amer. Jour. Pharmacy, vol. 72,i. ;
hemeris, v. 2321 ; P.J. i./00,69.

**lycerinum Belladonnæ, B.P.C.**

Green Extract of Belladonna ... 1 ounce.
Boiling Distilled Water ... ... 1 drachm.

Rub together in a warm mortar to produce a smooth
ste, and add

Glycerin ... ... *q.s.* to 2 ounces (fluid).

To check pain and inflammation, is often painted on
ils, abscesses, and carbuncles, and, covered with a poul-
e, also applied on lint to the breasts to disperse milk.
H. and U.C.H. are one-third weaker. R.O.H. orders
oz. of glycerin to the ounce of extract.

**inimentum Belladonnæ** (*Off.*).

Camphor 1, Alcohol (90 per cent.) 6. Dissolve and
d Liquid Extract of Belladonna 10, Distilled Water 2,
cohol (90 per cent.) *q.s.* to 20. A useful topical
dative for neuralgia and rheumatic pains.

Poisoning by above, pilocarpine an antidote.—B.M.J.,
81,594; i./90,420,720; i./97,1219; L. ii./90,175.

**inimentum Belladonnæ Compositum.**

Liniment of Belladonna 7, Chloroform of Belladonna 1.
Sprinkled on impermeable piline or the textile side of
nerican oiled cloth, applied constantly, relieves lumbago.

**ilula Quininæ cum Belladonna, R.O.H.**

Green Extract of Belladonna $\frac{1}{8}$ grain, Quinine
lphate 1 grain, Confection of Roses *q.s.*

**ulvis Hydrargyri cum Creta, et Belladonnæ, R.O.H.** *Dose.*—5 grains (0·32 Gm.).

Mercury with chalk 2 parts, Belladonna Leaves, in
wder, 1 part, Sugar, in powder, 2 parts.

**uccus Belladonnæ** (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.). Expressed
ce of leaves and branches with one-third of 90 per
nt. alcohol added.

Is about three times the strength of the tincture.

Hay fever relieved by one minim every hour.—B.M.J,
83,69.

**Suppositorium Belladonnæ** (*Off.*).

Contain Alcoholic Extract of Belladonna 1½ grains (0·1 Gm.), with Oil of Theobroma *q.s.*

Often ordered to be made with the green extract, but it is almost impossible to get sufficient of this to combine with the basis to be of service. **Pessaries** may also be made containing the same or double the quantity of extract.

**Tinctura Belladonnæ** (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

Liquid Extract of Belladonna 1, Alcohol (60 per cent.) *q.s.* to 15. Is about double the alkaloidal strength of that in B.P. 1885.

Full doses are very useful for incontinence of urine.—B.M.J. i./85,279.

**Tinctura Belladonnæ Ætherea.**

Prepared with Ether, 1 in 1½, with Camphor ½. Recommended in place of liniment for quicker absorption.—L. ii./90,67; P.J. 1890,84.

**Unguentum Belladonnæ** (*Off.*).

Liquid Extract of Belladonna 8, evaporate to 1, and add Benzoated Lard 9. Contains 0·6 per cent. of alkaloids.

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## BISMUTHUM.

The absorbent action of the preparations of bismuth taken internally is increased by combination with antiseptic organic compounds. These combinations have been much recommended in those disorders of the digestive tract in which several infectious diseases make their early manifestations. Thus the salicylate, and naphthol, phenol, pyrogallol and bromophenol compounds, as well as the sulphite, have been brought into use. These check the fermentative processes forming ptomaines, yet it is said, do not interfere with intestinal digestion.

**Bismuthi Benzoas,** Bismuth Oxybenzoate.

*Dose.*—5 to 20 grains (0·3 to 1·2 Gm.) thrice daily.

Antiseptic, internally in gastro-intestinal diseases externally as a dusting powder.

**'Erythrol.'** *Dose.*—⅙ to ¾ grain (0·01 to 0·05 Gm.).

The name given by A. Robin to a double Iodide of Bismuth and Cinchonidine. Said to be useful in butyric acid dyspepsia.—P.J. ii./98,661.

**ismuthi Carbonas,** Bismuth Oxycarbonate (*Off.*) *Syn.* BISMUTH CARBONATE.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

Suspended in an ounce of water by means of a drachm mucilage of tragacanth or about 6 grains of compound owder of tragacanth. The following forms an agreeable dose :—

istura Bismuthi.

Bismuth Oxycarbonate 10 grains, Sodium Bicarbonate grains, Mucilage of Tragacanth 1 drachm, Compound incture of Cardamoms 30 minims, Spirit of Chloroform 0 minims, Cinnamon Water to 1 ounce.

ablets, 5 grains each of Bismuth Oxycarbonate.

**astillus Bismuthi Carbonatis** (3 grains) **cum Morphinæ Acetate** ($\frac{1}{10}$ gr.). *r.p.*255.

**iquor Bismuthi et Ammonii Citratis.** *Syn.* **Liquor Bismuthi** (*Off.*).

*Dose.*—$\frac{1}{2}$ to 1 drachm (1·8 to 3·5 Cc.).

Contains 5 grains of citrate = 3 grains of oxide of ismuth in 1 drachm; is apt to become fungoid. vaporated to a syrupy consistence and spread on glass nd dried, it produces soluble small shining translucent cales of

**ismuthi et Ammonii Citras.**

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

**Liquor Bismuthi Concentratus, B.P.C.**

*Dose.*—15 to 30 minims.

Bismuth Subnitrate 7, dissolve with heat in Nitric cid and Water of each 5, when cold add Citric Acid 5, issolved in Water 7, then gradually Sodium Bicarbonate $\frac{3}{4}$, mixed with Water 7. Wash the precipitate till free rom nitrates, collect and dissolve it in Solution of mmonia 6 or *q.s.*, Solution of Ammonium Citrate 12, dd Distilled Water *q.s.* to 50. Filter.

Mistura Bismuthi Composita B.P.C.

*Dose.*—20 to 30 minims (1·2 to 1·8 Cc.).

Morphine Hydrochloride 8 grains, Distilled Water 4 drachms, Compound Tincture of Cardamoms 3 ounces, hloroform 70 minims, Liquid Extract of Nux Vomica 135 minims, Diluted Hydrocyanic Acid 320 minims, mix, add Concentrated Solution of Bismuth 15 ounces, nd Distilled Water *q.s.* to 1 pint.

**Bismuthi Iodo-Resorcin-Sulphonate.** *Syn.* ANUSOL.

**Suppositories** of this are used as a remedy for hæmorrhoids.

**Bismuthi Oxidum** (*Off.*). *Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

Is prepared by boiling bismuth subnitrate in solution of soda, washing and drying the deposited dull lemon-yellow-coloured bismuth oxide.

**Bismuthi Oxybromidum,** Bismuth Oxybromide. *Dose.*—5 to 7 grains (0·3 to 4·2 Gm.).

A yellowish insoluble powder. A useful sedative in nervous dyspepsia and vomiting.

**Bismuthi Oxychloridum,** Bismuth Oxychloride. *Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

Is much used as a cosmetic, pearl white or 'blanc de perle.' It gives a white pearly gloss to the skin. If carefully prepared, it is an impalpable, neutral, unirritating powder, and for many purposes should be preferred to the B.P. subnitrate (which is acid and crystalline), oxycarbonate, or oxide. Even for internal administration, if most of the action of bismuth preparations be due to the mechanical coating they give to the irritated parts of the stomach or bowels, the oxychloride should be preferred, as, besides being an impalpable powder, it is a very insoluble one. It coats and adheres to the mucous membrane, and is very useful in irritated conditions of the mouth, throat, vagina, and rectum. From a quarter to half a grain may be used as an insufflation to the larynx.

**Pessaries** or **Suppositories** may be made with oil of theobroma, containing 10 grains (0·65 Gm.) of the oxychloride in each.

**Unguentum Bismuthi Oxychloridi.**

Bismuth Oxychloride 1, Vaseline 15.

Is useful for anointing the speculum previous to vaginal examinations.

**Bismuthi Oxyiodidum,** Bismuth Oxyiodide. *Dose.*—5 to 10 grains (0·32 to 0·65 Gm.).

A brownish red amorphous powder, with slight iodine odour, insoluble in water, alcohol or ether. Has been applied as an antiseptic to ulcerous sores in place of iodoform, and injected in suspension in 100 parts of water for gonorrhœa; also as an ointment for rectal affections. Internally given for ulcer of the stomach.—B.M.J. i./89,783.

**ssmuthi Phosphas.**

*Dose.*—3 to 8 grains (0·18 to 0·5 Gm.).

A soluble white powder is sold which is probably a xture of Bismuth Phosphate and Sodium Pyro-osphate. Is used as an intestinal antiseptic and ringent in acute gastric or intestinal catarrh.

**ssmuthi Salicylas, Bismuth Salicylate. Bismuth Oxysalicylate** (*Off.*). **P.G.iv.**

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

A white or nearly white powder, obtained by the composition of true bismuth nitrate and a solution sodium salicylate; is insoluble in water, alcohol, d glycerin. Has been used with advantage in some ms of diarrhœa, typhoid fever, &c.—P.J. 1883,243, 8; 1885,889; L. i./88,1100; B.M.J.E. i./92,99.

Valuable remedy for gastric catarrh.—L. ii./86,31.

A good substitute for iodoform.—P.J. 1895,962.

**ablets**, 5 grains (0·32 Gm.). *Dose.*—1 to 4.

**ismuthi et Cerii Salicylas.**

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

A double salt, resembling the above, has also been commended for sickness, diarrhœa, dysentery, and ceration of the bowels.

**istura Anti-choleraica.** (*Royal College of Physicians, 1892.*)—L. ii./92,682.

(I.) Salicylate of Bismuth and Cerium 5 grains, ompound Powder of Cinnamon 7½ grains, Compound ncture of Camphor 30 minims, Compound Tincture Chloroform, Aromatic Spirit of Ammonia, of each ) minims, Essence of Peppermint 10 minims, Chalk ixture to 1 ounce. *Dose.*—1 ounce every 3 or 4 hours. ould it disagree, or in 24 hours fail to give relief, the llowing mixture should be substituted:—

(II.) Aromatic Sulphuric Acid 15 minims, Compound incture of Camphor 30 minims, Compound Tincture of hloroform, Tincture of Coto, of each 20 minims, Syrup Orange Flower 1 drachm, Peppermint Water to ounce. *Dose.*—1 ounce every 3 or 4 hours.

**ismuth Sulphocarbolate or Sulphophenate.**

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.) in cachets.

A red-tinted whitish powder slightly soluble in water, seful in intestinal affections.

**iarrhœa and Cholera Mixture.** (*Board of Health.*)

Aromatic Confection 9 grains, Aromatic Spirit of

Ammonia 9 minims, Tincture of Catechu 30 minims, Compound Tincture of Cardamoms 18 minims, Tincture of Opium 3 minims, Chalk Mixture to 1 ounce (= 1 dose).

**Quinoline - Bismuth - Sulphocyanide.**—*Syn.* CRURIN.

An antiseptic dusting powder of yellowish red colour, pungent odour, insoluble in alcohol, water and ether.—P.J. i./00,615; ii./00,486.

**Thioform,** a basic dithio-salicylate of bismuth, is a brownish white insoluble powder, inodorous, recommended as a desiccant antiseptic, especially for eye cases and in veterinary practice.—Pr. lii.30; B.M.J.E. i./96,32.

**Bismuthi Subnitras.** BISMUTH OXYNITRATE (*Off.*).

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

Is prepared by the addition to water of crystals of bismuth nitrate, and generally levigated afterwards. It should be remembered that this preparation from its nature is always *acid* in reaction; it is therefore incompatible with alkaline carbonates—many bottles of medicine so prescribed burst in transit. Best suspended in aqueous vehicle by mucilage of acacia, 1 drachm to the ounce, avoid tragacanth.

Useful as a dusting powder in ophthalmic practice.—L. ii./94,211.

**Tablets,** 5 and 10 grains (0·32 to 0·64 Gm.).

**Trochisci Bismuthi Compositi** (*Off.*).

Bismuth Oxycarbonate 2 grains, Heavy Magnesium Carbonate 2 grains, Precipitated Calcium Carbonate 4 grains, with rose basis.

**Pulvis Bismuthi Compositus** (Ferrier's Snuff).

Morphine Hydrochloride 1, Powdered Acacia 60, Bismuth Oxynitrate 180.

From 1 to 3 drachms to be used as snuff in 24 hours for catarrh.—L. i./76,525. For acute coryza, powdered cubebs may be added.

**Bismuthi Sulphis.**

*Dose.*—5 to 30 grains (0·32 to 2 Gm.).

Used for fermentative disorders of stomach and intestine, and for dislodging worms.—P.J. 1894,434.

**Bismuthi Oxy-Iodogallas.** *Syns.* AIROL, AIROFORM, AIROGEN.

A greyish-green powder, odourless and tasteless. Is three times the bulk of iodoform, and used as a substi-

for it in the form of dusting powder, or ointment
ı lard or anhydrous lanoline.

ecommended as a non-irritant antiseptic for ulcers,
ıs, leprosy, boils, whitlows, chancres, and for inter-
o.—L. i./96,642; B.M.J.E. ii./95,84; ii./96,523;
7,16; P.J. i./97,363; L. ii./97,39.

**smal.**

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

. bismuth salt of methylene-digallic acid, insoluble in
er but soluble in caustic alkaline solutions. Recom-
ided as an astringent, especially in tubercular
rhœa.—P.J. i./96,162,417.

**smuthi Subgallas.** *Syn.* DERMATOL; BISMUTHUM SUBGALLICUM, P.G. iv.; BISMUTHUM SUBGALLICUM, P. Aus. Add.

ı odourless, yellow, insoluble powder, recommended
a powerful non-irritant antiseptic and desiccant.
sens secretion from weeping surfaces; may be used
a dusting powder alone or with starch.

Resembles powdered iodoform in appearance, but is
from odour and poisonous properties. Applied to
h clean wounds promoted rapid cicatrization and
t wound dry. Is less suited to septic wounds, and
ıfficiently stimulating in chronic indolent ulcers.—
M.J.E. ii./91,86,198; Pr. xlviii.214; P.J. 1891,
59,82; M.C. Nov. 1891,114; Ed. M.J. 1891,270.

Given internally for diarrhœa with good results, in
es of 30 to 90 grains daily.—B.M.J.E. i./92,16;
. 1892,3.

Ten per cent. ointment with vaseline recommended
burns and eczema of children.—B.M.J.E. i./92,52.

Dermatol successful in treatment of venereal ulcers;
powder or 10 to 15 per cent. ointment with vaseline;
id and unirritating.—B.M.J.E. ii./92,20.

Emulsion composed of Dermatol 2, Gum Acacia 2,
ter 25. Used in gonorrhœa, good results.—P.J.
00,30.

**ıphthol-Bismuth.** *Syn.* ORPHOL.

*Dose.*—10 to 30 grains (0·65 to 2 Gm.).

A compound of β-naphthol with bismuth. Is less
tating than naphthol to the stomach and intestines,
which it acts as a useful antiseptic and astringent.—
J. ii./95, 391.

**Phenol-Bismuth.**

*Dose.*—10 to 30 grains (0·65 to 2 Gm.).

A greyish insoluble powder, containing about 20 per cent. of phenol, combined with bismuth oxide. Acts slowly on the digestive tract and does not cause carboluria. Has a similar action to last preparation.

**Pyrogallol-Bismuth.**

*Dose.*—2 to 8 grains (0·13 to 0·52 Gm.), *v.p.*102.

**Tribromophenol-Bismuth**, *v.p.*16.

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## BROMUM.

### Bromine.

This element is not used medicinally in the free state.

**Glass Tubes,** 1, 2·2, and 4 Cc. and *Liquor Bromi*, *v.p.*433.

The following medicinal inorganic **Bromides** contain the halogen in these proportions:—Ammonium Bromide 81·63 per cent., Lithium Bromide 91·95 per cent., Potassium Bromide 67·2 per cent., Rubidium Bromide 73·8 per cent., Sodium Bromide, B.P. (anhydrous) 77·67 per cent., Strontium Bromide U.S. ($+6H_2O$) 44·99 per cent. (if exsiccated about 64 per cent.), Zinc Bromide 71·1 per cent.

**Acidum Hydrobromicum,** *v.p.*19. **Ammonium Bromide,** *v.p.*68. **Ethyl Bromide,** *v.p.*50. **Ethylene Bromide,** *v.p.*51. **Iron Bromide,** *v.p.*237. **Lithium Bromide,** *v.p.*319. **Sodium Bromide,** *v.p.*430. **Zinc Bromide,** *v.p.*468.

**Amyli Bromidum,** Starch Bromide.

*Dose.*—60 to 120 grains, in water or water gruel.

Wheat Starch 22, damp with Distilled Water 2, add gradually Bromine 1; triturate until all smell of Bromine is dissipated. Has Bromine properties corresponding to Starch Iodide, *v.p.*302. A corresponding loose combination with chlorine is made as **Amyli Chloridum,** but in both by oxidation the ultimate products are Gluconic Acid with hydrogen compounds of the halogens.

**Bromal Hydras.** Bromal Hydrate.

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.) at bedtime for relieving pain or producing sleep.

In large oblique colourless prisms, which melt on the hand. It is not quite so soluble or readily soluble in ater as chloral hydrate. Applied externally to the skin, causes irritation and great infiltration of the tissue, as hen dry cupping-glasses are used. Being much more ctive physiologically than chloral hydrate it is not suitble for internal administration, as it causes pyrosis, omiting, and diarrhœa.

In epilepsy, tried without success.—Stillé and Maisch.

Relieves inflammatory fever of acute gout.—B.M.J. i./88,151.

**Bromalin.**—*Syn.* BROMETHYLFORMINE, HEXAETHYLENTETRAMINBROMETHYLATE.

*Dose.*—10 to 30 grains (0·65 to 2 Gm.).

In colourless scales or white crystalline powder, easily oluble in water. Used as a nerve sedative, and especially epilepsy, in doses double those of potassium bromide. ith the same success but without skin eruptions or tor.—B.M.J.E. i./95,24; P.J. i./95, 912,990,1115.

**Bromidia,** *v.p.*138.

**Brominoleum,** Brominol.—*Syn.* BROMIPIN.

*Dose.*—10 to 60 grains (0·65 to 4·0 Gm.) approxiately equivalent in content of Bromine to 5 to 30 grains otassium Bromide.

An additive compound of Bromine with Sesame Oil *p.*xxviii) containing 33⅓ per cent. of the halogen. Is ecommended as being more completely assimilated than he Alkaline Bromides, being absorbed by the intestine hen acted on by the pancreatic secretion and bile, as ausing no rash, none of the depression which sometimes esults from Bromides, and being effective in attacks of pilepsy. It can be given by rectal injection or rubbed nto the skin.

It is used as a substitute for the alkaline bromides n epilepsy and all forms of nerve troubles where the romides would be employed.

The compound may be prepared by taking of Sesame Oil 100 Gm. contained in a stone jar surrounded by cold water and ixing with it a little ether. In another jar standing in cold ater dissolve 250 Gm. Bromine in 200 Cc. of ether, adding it radually and cautiously. Add this ethereal bromine solution to he ethereal solution of sesame oil with caution. The whole peration should be conducted in a draught chamber. Distill off he ether, and wash the residue repeatedly with 90 per cent. lcohol in a separator at 15°C. until the halogenized oil is no longer cid to litmus. Dry the oil to remove the alcohol incorporated ith it during washing by heating in vacuo at 50° C. The bromine in it is then estimated by a Carius' analysis. Finally, adjust the preparation by adding more sesame oil so that it shall contain 33⅓ per cent. bromine. It forms a thick yellow oil, odourless and of oily taste. Sp. gr. 1·0125. The compound may also be prepared by the action on the oil of Bromine-monochloride in alcoholic solution, *v.* Iodinol, *p.*301.

**Brominol** may be given shaken up with an equal volume of syrup, in beer, wine or milk, or emulsified as follows: Brominol 33⅓ per cent. 2 ounces, Gum Acacia 1 ounce, Chloroform 18 drops, rub together and add quickly with vigorous agitation Water *q.s.* to 6 ounces. Dose of 2 drachms equals 20 grains Potassium Bromide. A weaker **Brominol** containing 10 per cent. of Bromine is also prepared. A dose of ¼ ounce of this equals approximately 20 grains of Potassium Bromide.

**Capsules** contain 2 Gm. of 33⅓ per cent. Brominol in each, equal 15 grains Potassium Bromide.

Sir W. R. Gowers informs us Bromipin has less tendency to cause rash, but also less tendency to arrest the attacks. Compared with an equivalent of Potassium Bromide it seems to have less influence in epilepsy. The urine from patients under the Brominol treatment has been found to contain an appreciable quantity of Bromine in combination, and the fæces to contain traces.

**Bromoform, P.G. iv.** *Dose.*—½ to 2 minims 0·03 to 0·12 Cc.) or more.

A limpid, colourless, sweet liquid, with an agreeable odour; sp. gr. 2·829 to 2·833. Soluble in alcohol and ether, slightly so in water. Is decomposed by light. Is a powerful sedative, useful in insane cases.

**Capsules** contain ½ minim (0·03 Cc.) dissolved in oil.

**Aqua Bromoformi.** Well shaken 1 minim is dissolved in 2 ounces of water. *Dose.*—1 to 4 ounces.

**Mistura Bromoformi.** *Dose.*—2 to 4 drachms.

Bromoform ½ (fluid) drachm, tincture of senega, shake well and gradually water *q.s.* to 6 ounces, syrup of orange ½ ounce. Makes a good emulsion.

In cases of whooping-cough it arrests the vomiting: no failures.—M.C. April 1890,47; Pr. xlv. 47; L. ii /89,397; ii./90,139; Th. Gaz. 1890,607,695.

Bromoform in whooping-cough is harmless, diminishes number, duration, and severity of attacks, and mucou secretion is more easily got rid of. Vomiting and hæmorrhage soon cease. Two cases of overdose have urred, but yielded to prompt restoration.—B.M.J.E. 91,94; Ed.M.J. 1891,471; Th. Gaz. 1891,770.

Results in whooping-cough uniformly gratifying; miting always ceases, expectoration becomes more y, and bronchitis gradually disappears.—Pr.1.100.

Effect most marked, violence of paroxysms reduced, d duration of disease shortened. Poisoning by over-se; recovery.—L. i./93,1062.

Poisonous effects.—L. ii./98,1816; i./99,119.

## BRUCINA.

rucine.—*Syn.* Brucia.

*Dose.*—$\frac{1}{12}$ to $\frac{1}{2}$ grain (0·0054 to 0·032 Gm.).

An alkaloid obtained along with strychnine from e seed of *Strychnos Nux-vomica*, and other species of rychnos. In small white acicular crystals, with bitter ste. Very soluble in alcohol, soluble 1 in less than 2 of loroform, 1 in 320 of water. Its salts are more soluble water. It, as well as morphine, gives an intense red lour with nitric acid, which strychnine, if pure, does ot. Brucine is difficult to obtain perfectly free from rychnine. It is said to possess only $\frac{1}{24}$ the physio-gical power of strychnine.—P.J. 1877,652,666.

For epilepsy, has curative properties, given as liquor, me strength as liquor strychninæ, 10 minims twice a day, creased every third day by 5 minims, until half a grain reached.—L. i./69,75.

Note on physiological action.—L. i./83,30.

## BRYONIA.

Bryony.—*Syn.* Vitis alba; White Bryony.

**'inctura Bryoniæ, B.P.C.**

From bruised fresh roots of *Bryonia alba* or *B. dioïca* tincture is prepared corresponding in strength to 1 of ied root to 10 of alcohol (60 per cent.).

*Dose.*—1 to 10 minims (0·06 to 0·6 Cc.) or more.

Useful in pleurisy. Given in small doses it relieves e pain and allays the cough. In large doses it is an tive hydragogue cathartic, sometimes used for dropsy. he fresh plant applied to the skin will cause vesication. contains Bryonin, a bitter principle, cathartic and uretic, soluble in water and alcohol, insoluble in ether.

*Dose.*—$\frac{1}{6}$ grain in granules, 1 every hour until sufficient action obtained.—P.J. ii./96,19; ii./00,776.

Bryony successful as a styptic. An infusion of 1 in 10 arrested metrorrhagia.—L. ii./88,438.

Bryonia alba as a styptic.—Nouv. Remèdes, 1889, Nov. 576; M.C. April 1890,47; Pr. xlv.132.

Useful in checking inflammatory pleurisy and assisting absorption of fluid.—B.M.J. i./92,1137.

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## BUTYL-CHLORAL HYDRAS.

**Butyl-Chloral Hydrate** (*Off.*).—*Syn.* CROTON-CHLORAL HYDRATE (formerly so called). TRICHLORBUTYLIDENE GLYCOL.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.), in pills or cachets.

In pearly-white crystalline scales, having a pungent odour resembling that of Chloral Hydrate, and an acrid, nauseous taste. Soluble 1 in 43 of cold water; freely soluble in alcohol, and 4 in 1 of glycerin.

It is, perhaps, the most efficacious remedy in facial neuralgia.—R.

Menthol 2, with Butyl-Chloral Hydrate 1 part, liquefies, *v.p.*326. Combines with Antipyrine, *v.p.* 173.

**Mistura Butyl-Chloral, T.H.**

Butyl-Chloral Hydrate 4 grains, Glycerin 15 minims, Water to 1 ounce.

This dose is very useful as an anodyne in neuralgic affections of the throat, frequently repeated.

**Pilula Butyl-Chloral.**

Butyl-Chloral Hydrate 3 grains (0·2 Gm.) or more, Glycerin of Tragacanth or Mucilage of Acacia *q.s.* To make one pill. *Dose.*—1 every 2 hours, or hourly.

**Pilula Butyl-Chloral cum Gelsemina.**

Gelsemine Hydrochloride $\frac{1}{200}$ grain (0·00032 Gm.) is added to each of the above and, for facial neuralgia, given similarly.

**Syrupus Butyl-Chloral, B.P.C.**

Butyl-Chloral Hydrate 16 grains, Syrup 1 ounce. Dissolve the hydrate in the syrup made hot.

*Dose.*—One to four drachms (3·5 to 15 Cc.).

Relieves paroxysmal neuralgic pains in the regions supplied by the fifth nerve.—L. ii./72,558.

For toothache of pregnancy and neuralgic toothache, oses of 5 to 15 grains internally; and used also locally. -Pr. xix.382.

For paroxysmal headache in females suffering from ental distress and facial neuralgia.—B.M.J. i./79,667.

Most useful in true migraine, given with antipyrine, nnabis, or gelsemium; neuralgia of other nerves than ie cranial rarely benefited.—Pr. xlvi.296; M.C. May 391,140.

**hloretone; Trichlor-Tertiary-Butyl-Alcohol; Acetone-Chloroform.**

*Dose.*—5 to 24 grains (0·3 to 1·5 Gm.) in cachet tablet followed by a draught of water or milk, or ispended in a mixture.

In white needle crystals, with camphoraceous taste. luble 1 in 125 of water, 1 in 8 of glycerin. Is a ypnotic, local anaesthetic and an antiseptic.—L. '00,106; P.J. i./00,264; M.C. ii./00,38.

**neson or Anesin** is a 1 per cent. solution of Chloretone.—Merck's Rep.

LONDON

## CAFFEINA.

**Caffeine** (*Off.*).—*Syn.* THEINE, GUARANINE.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) or more -as much as 18 grains being recommended—given in olution, or in pills with glycerin of tragacanth.

A crystalline alkaloid usually obtained from the ried leaves of *Camellia Thea*, or dried coffee-seeds -*Coffea arabica;* also contained in guarana (*v.p.*260), naté -the leaves of *Ilex paraguayensis*—and kola nuts -the seeds of *Sterculia acuminata*, growing in Western Africa; it is identical with Theine and Guaranine. affeine and Theobromine (*v.p.*155) can be prepared from Xanthine (the latter being di- and affeine tri-methyl-xanthine) and indirectly from guano, s Xanthine may be obtained as a derivative of Guanine ontained in guano. Caffeine is in needles like white ilk, soluble 1 in 68 of water, more so in alcohol, less in ther; acids render it more soluble in water, but it is a eble base, and on concentrating the solution of the salts hey are apt to split up, and the caffeine crystallizes out y itself. It has a bitter, not agreeable taste. It stimuates the heart and raises arterial tension. In excessive oses it causes rise of temperature, convulsions, and paralysis. It is given for hemicrania. Locally, to the eye, it dilates the pupil.

Caffeine and its allies, theobromine and xanthine, and their derivatives are much used as diuretics; they act as direct stimulants to the water-secreting apparatus of the kidneys.

Tea contains on an average 4 to 4½ per cent. of Caffeine; raw coffee about 1·2 per cent., and when roasted about 1·3 per cent.—P.J. 1887,417,565.

**Kola.**—Description of, and uses.—B.M.J. i./90,969; Ed.M.J. 1890,276; *v.* above.

**Extractum Kolæ Liquidum. B.P.C.**

*Dose.*—10 to 20 minims.

Kola nuts in 40 powder exhausted with 60 per cent. alcohol; 1=1

**Kolanin**, a glucoside, is decomposed both by saliva and gastric juice; tonic and stimulant for neurasthenia and migraine. Under the name of Kolanin also specialties consisting of spissated and dried extracts are prepared, the latter said to contain 80 to 90 per cent. of Kolanin. *Dose.*—2 to 5 grains.—B.M.J.E. ii./97,7; Y.B. 1898,85.

**Neo Kola**, a powder prepared from Kola nuts for use as a beverage like cocoa.—B.M.J. i. 96,285.

**Maté** or Paraguay tea, properties and uses. It contains one-fourth as much caffeine as tea, and is slightly less astringent.—B.M.J. ii./90,203; Th. Gaz. 1890,633. Properties of, removes fatigue and induces sleep.—L. i./99,896,1392.

**Caffeinæ Citras** (*Off.*). Caffeina Citrata, U.S.

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.).

Is directed to be prepared by dissolving caffeine 1 and citric acid 1 in distilled water 2, evaporating to dryness on a water bath, stirring constantly towards the end of the operation, and reducing to a fine powder. The alkaloid is loosely combined with the acid.

**Caffeinæ Citras Effervescens** (*Off.*).

Contains 4 per cent. of the citrate, or about 2½ grains in a drachm. *Dose.*—1 to 2 drachms (4 to 8 Gm.).

**Effervescent Caffeine Citrate, with Potassium Bromide**, has in addition 5 grains of the latter salt to the drachm. For headache.

**Tabellæ Caffeinæ Citratis** contain 2 grains.

ablets, Caffeine 1 grain (0.065 Gm.), and Phenazone 3 grains (0·2 Gm.). *Dose.*—1 to 5.

**affeinæ Ammonio-Citras.** *Dose.*—1 to 10 grains (0·065 to 0·65 Gm.). A minutely crystalline white powder, slightly soluble in water.

**affeine Hydrobromide** and **Hydrochloride.** *Dose.*—½ to 5 grains (0·032 to 0·32 Gm. or more. In large transparent crystals, slightly soluble in ater, with dissociation.

**ffervescent Caffeine Hydrobromide** is prepared, containing 4 per cent., or about 2½ grains, in a drachm. *Dose.*—1 to 2 drachms (4 to 8 Gm.).

**affeinæ Sodio-Salicylas** (Coffeïno-Natrium-salicylicum P.G.iv.).

*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.) hypo- ermically. Maximum dose 1 Gm. (P.G.)

A white amorphous powder, containing 62·5 per cent. caffeine, and soluble 1 in 2 of water. This salt and e corresponding cinnamate and benzoate act like digi- lis, but more rapidly; the benzoate, **Coffeïnum atrio-Benzoicum**, daily dose up to 3 grammes, is cluded in P. Aus. Add.

Caffeine is very soluble in aqueous solutions of ben- oate, cinnamate, and salicylate of sodium. These dis- lve it in chemically equivalent quantities. The follow- g solution with sodium salicylate forms an unirritating podermic injection. See also Antipyrine, *v.p.* 173.

**njectio Caffeinæ Hypodermica.**

Caffeine 20 grains, Sodium Salicylate 17½ grains, istilled Water to 1 drachm. *Dose.*—1 to 6 minims, ontains 1 grain in 3 minims. Particularly recom- ended for alcoholic and morphine intoxication, also r hemicrania. Use in Eucalyptus poisoning.— .M.J. i./88,849.

**Hypodermic Lamels** ¼ grain Caffeine in each.

**affeinæ Sulphas.** *Dose.*—½ to 5 grains (0·032 to 0·32 Gm.) or more. A minutely crystalline white powder, soluble about 1 in 40 of water.

**affeinæ Tri-bromidum,** Caffeine Di-bromo-hydrobromide. *Dose ?*

In orange crystals, containing 45 per cent. of Bro- ine in loose combination; should be given in capsule rm where cases require combined treatment of Bromine d Caffeine.

**Caffeinæ Tri-iodidum**, Caffeine Di-iodo-hydriodide. *Dose.*—2 to 4 grains (0·13 to 0·26 Gm.). In prismatic black iridescent crystals, rich in iodine.

**Caffeinæ Valerianas.** *Dose.*—$\frac{1}{2}$ to 3 grains (0·032 to 0·2 Gm.). In irregular crystals or powder, having the odour of valerian. It controls hysterical symptoms, and is useful in pertussis.—M.R. '75.295.

Useful in cardiac disease, especially where dropsy is a marked symptom. Is apt to induce insomnia. Large doses are required. It is better borne than digitalis.—L. ii./82,909; i./83,909; B.M.J. i./80,443; Pr. xxii.23.

A stomachic tonic, lessens tissue change, and waste. Has been given in cases of diarrhœa, phthisis, and neuralgia.—B.

Caffeine acts on the heart in large doses like digitalis, but is apt to produce insomnia and nervousness.—L. ii./82,909; Pr. xxxiii.218; Pr. xxxiv.139.

Poisoning by 60 grains of citrate caused burning in throat, giddiness, violent vomiting, purging and diuresis, tremors of extremities, pain in stomach and bowels, and great thirst. Recovery: treated with nitro-glycerine, &c. -L. i./83,680. Poisoning by 200 grains: recovery under $\frac{1}{12}$ grain apomorphine.—L. i./89,219; Th. Gaz. Mar. 1889,215.

Caffeine useful in pneumonia as a cardiac stimulant; pulse improves and temperature falls.—B.M.J. ii./88,43. Also in typhoid.—Pr. xli. 138.

Caffeine facilitates muscular labour by increasing activity of cerebro-spinal centres: diminishes sensation of effort and keeps off fatigue.—B.M.J. i. 90,735,746; Ed. M.J. Sept. 1890,276.

Caffeine of great service in renal insufficiency, as injection with sodium benzoate.—Th. Gaz. 1890,436.

Administration of caffeine simultaneously with digitalis frequently gives favourable results not obtainable by increasing dose of digitalis.—B.M.J. ii. 92,1156; L. ii. 92,277.

Bronchial asthma of adults relieved by 5 grain doses of citrate; no ill effects except at times wakefulness, which is not unpleasant.—Pr. liv.318; P.J. 1895,935.

**Caffeine-Chloral.**

A compound of caffeine and chloral, in small white granular crystals, freely soluble in water, with the acrid ste of chloral. Is analgesic and laxative, and in hypo-rmic injections of 3 to 8 grains useful in constipation, inful gastric distension, sciatica, and rheumatism.

**odo-Caffeine.**—*Syn.* SODIUM-CAFFEINE IODIDE.

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.).

A white powder, slightly soluble in cold, freely in ater at 100° F. Contains 65 per cent. of caffeine. Is good diuretic, especially to prolong diastole in cases of feebled heart. Is useful in cardiac dropsy, and pleurisy ith effusion. Does not disorder digestion or respira-on.—B.M.J. ii./94,1190.

**igranin.**—*Syn.* ANTIPYRIN CAFFEINO-CITRICUM, P. Aus. Add.; CITRATE OF ANTIPYRINE-CAFFEINE.

*Dose.*—8 to 15 grains (0·52 to 1 Gm.).

Contains about 9 per cent. of caffeine and 90 of anti-rine; is of crystalline appearance, easily soluble in water, ith a slightly acid reaction, and as its fancy name implies, recommended as a specific for migraine and the headache influenza, and that caused by nicotine and morphine. serviceable in headache, but apt to cause sleeplessness.

**ymphorol.** *Dose.*—10 to 15 grains (0·65 to 1 Gm.).

Under this name compounds are sold which consist of ffeine-sulphonic acid combined with Lithium (**Sym-horol, L.**), with Strontium (**Symphorol S.**), d with Sodium (**Symphorol N.** *Syn.* NASROL). ese are in white crystalline powder, the lithium lt being most, and the sodium salt least, soluble in ter. They possess diuretic properties, and are recom-ended in dropsical heart and kidney troubles.

## CALCIUM.

**alcium Carbide** (requires special storing.)

In solid, blackish crystalline masses, resembling all pieces of coal. Evolves acetylene gas when ought into contact with moisture or water. May be ed as a test for, and in the preparation of, absolute ohol.—P.J. i. 98,139.

Carcinoma of the uterus, piece of carbide applied with cess to dried ulcerated surface with a tampon over it, ecks bleeding, fetor and discharge.—Münch. Med. och., 1900, No. 24.

**alcii Chloridum**, Calcium Chloride (*Off.*).

*Dose.*—5 to 15 grains (0·32 to 1 Gm.) in aqueous solution, or it is more palatable made into pills with syrup; these must be kept in bottles.

According to the pharmacopœia calcium chloride, anhydrous and most convenient for use in medicine, is in fused white agglutinated masses, dry, but very deliquescent. The porous dried chloride is better adapted for chemical purposes for absorbing water. Crystals of calcium chloride are very deliquescent and unmanageable, as they dissolve in one-fourth their weight of water. Calcium chloride is given in tubercular disease and glandular affections. It is not astringent. It has been recommended as a disinfectant.

**Liquor Calcii Chloridi**, B.P. 1885, was 1 to 5 of distilled water. Dose, 15 to 50 minims (0·9 to 3 Cc.).

Chorea, eight cases in children, cured by doses of 7 to 15 grains daily.—M.T.G. ii./75,663.

In tubercular diseases, phthisis and all wasting diseases of children, has great power in controlling. For adults, 30 grains three times a day.—L. ii./77,275.

It is said to check the growth of uterine fibroids, some think it tends to cure them by aiding a process of calcareous degeneration.—L. ii./73,1.

In sarcinæ, the vomiting is checked by 30 to 60-grain doses.—M.T.G. i./60,401.

In scrofula, is a valuable general tonic, slows and strengthens the pulse; best given to children in milk, after food.—Pr. xxxiv.161.

Acute lobar pneumonia, 22 cases treated successfully with chloride of calcium, 5 to 15 grains every 4 hours.—Pr. l.263. Corroborated.—B.M.J. ii. 93,1374.

Acts as an antipyretic in pneumonia.—Pr. liii.343.

Large doses useful in checking bleeding from large vessels; also 1 per cent. solution with solution of nucleo-albumen applied externally with advantage.—Clin. Jour., v. 345.

Of service to check and prevent the bleeding of patients with hæmophilia, as after tooth extraction.—L. ii/. 97, 1061.

Gastro-intestinal bleeding of children checked by five grain doses many times daily.—L. ii./98,144.

**Calcii Iodatum,** Calcium Iodate. *Syn.* (CALCINOL.

*Dose.*—3 to 4 grains (0·18 to 0·24 Gm.) three times daily in solution.

Tasteless, odourless powder soluble in 380 parts of water at 11·5° C.

An antiseptic, somewhat unstable, the action of same being probably due to liberation of iodine and oxygen when coming in contact with putrescent organic matter.—P.J. i./01,27.

Valuable as a substitute for iodoform, and as a gastro-intestinal antiseptic agent.—L. ii./00,1867.

**Calcium Peroxide**.—*Syn.* Gorit.

*Dose*.—3 to 9 grains (0·2 to 0·6 Gm.) daily.

A useful intestinal antiseptic for infants. Best results in cases of acid dyspepsia. P.J. i./00,330. It explodes if mixed with Glycerin or Formalin.

**Calcii Permanganas**, *v.p.*325.

**Calcii Saccharas**, Calcium Bi-saccharate.

*Dose*.—8 to 30 grains (0·52 to 2 Gm.).

In colourless tufts, soluble in water, used as an antacid for dyspepsia and flatulence, specially useful for children; also as an antidote to carbolic acid poisoning in 10 times above doses.

**Linimentum Calcis** (*Off.*).

Solution of Lime 1, Olive Oil 1. Is often modified for application to burns by using Linseed *vice* Olive Oil and is known as **Carron Oil** or *Linimentum Calcis*.—St. Bart.; Mid. H.

**Liquor Calcis Saccharatus**, Saccharated Solution of Lime (*Off.*).

*Dose*.—20 to 60 minims (1·2 to 3·5 Cc.).

Calcium Hydroxide (free from iron, preferably prepared from marble) 1, Distilled Water 19. Mix, and add Syrup (by weight) 3 (=Refined Sugar 2). Contains 1·77 per cent. of Calcium Oxide, or 8·16 grains in ounce.

**Mistura Cretæ**, Chalk Mixture (*Off.*).

*Dose*.—½ to 1 ounce (15 to 30 Cc.).

Prepared Chalk 50, Tragacanth 7, Sugar 100, Cinnamon Water *q.s.* to 1600.

The powders are generally kept mixed in a dry condition, and 40 grains of this may be added to an ounce of cinnamon water as required.

**Calcii Salicylas**, *v.p.*33.

**Calx Sulphurata**, Sulphurated Lime (*Off.*).—*Syn.* Calcii Sulphidum; Calcium Sulphide; Canton's Phosphorus.

Some forms of it after being heated shine in the dark and are used to make luminous paint.

*Dose.*—$\frac{1}{4}$ to 1 grain (0·016 to 0·065 Gm.) in pill.

A mixture containing not much less than 50 per cent. of true Calcium Monosulphide, prepared by reducing native Calcium Sulphate by charcoal. It has a greyish white colour and slight sulphuretted odour; it is but sparingly soluble in water, which solution quickly decomposes, evolving sulphuretted hydrogen. In thus liberating this gas, calcium sulphide possesses properties allied to the sulphurous springs of Harrogate, Barèges, Gilsland, &c. It is found very useful administered for boils, carbuncles, acne, scrofulous sores, especially in glands of the neck, by hastening maturation and preventing formation of fresh boils, &c. For boils, &c., $\frac{1}{10}$ grain is given every hour. For suppurating glands in the neck, $\frac{1}{2}$ to 1 grain every two hours, continued for weeks, is very beneficial.—R. Used successfully against influenza, 1 grain daily.—B.M.J. i./95.974.

**Pilula Calcis Sulphuratæ,** $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, and 1 grain.

These pills are best prepared by triturating the sulphurated lime with milk sugar, adding acacia and syrup *q.s.*, rolling into pilules and coating with sandarach solution. Keep in bottles.

*Dose.*—1 every hour, or every 2, 4, or 6 hours as above, according to the state of the disease, whether acute or not.

Half to one grain hourly found useful in measles, in whooping-cough and scarlet fever; cuts short the attacks.

Cases of acne of the face cured by $\frac{1}{4}$ to $\frac{1}{2}$ and 1 grain doses 3 to 6 times a day.—L. ii./78,215.

Useful in boils and skin affections, also in diphtheria and croup—the false membrane is detached and expelled. L. i./82,296; Pr. xlii.211; Th. Gaz. 1800.305.

In strumous ophthalmia, 5 cases, doses of $\frac{1}{10}$ to $\frac{1}{4}$ grain effected cures.—Pr. xxviii.17.

In periostitis and alveolar abscesses found of great service.—Stocken's Dental Mat. Med., 2nd ed., 143.

Usual dose is too small for boils; give 1 grain three times a day, increased to 8 grains daily.—L. i./85.64.

Suggested use in diabetes.—L. i./88,868.

**Lotio Calcii Sulphurati, U.C.H.**

Slaked Lime 4, Sublimed Sulphur 4, Distilled Water 35. Boil together, evaporate, and filter, to produce 20 of solution. This should be diluted with an equal quantity of warm water for painting over the patient, who ought previously to have had a bath, as a remedy for itch, which it will cure in half an hour. It holds in solution calcium pentasulphide with some oxysulphide, and resembles in composition **Vleminckx' Solution.**

**Sulphurated Lime Depilatory.**

Is a thick milk of lime charged with sulphuretted hydrogen.—P.J. ii./00,486. A less unpleasant, but equally efficacious, application is

**Barium Sulphide Depilatory.**

Barium Sulphide, in fine powder 1 part
(Or less or more, up to 3 parts, if ordered).
Wheat Starch Powder ... 3 parts.

Make into a cream with water. When required for use, spread it on the part and let it remain five or ten minutes, then remove with a blunt knife. N.B.—It temporarily reddens the skin.

The safest and best depilatory.—M.C. Feb. 1892,322; B.M.J. i./92,639.

Unna recommends equal parts of sulphide of barium, starch, and oxide of zinc.—M.C. Oct.92,47; L. ii. 94,290.

**Barii Sulphidum.**

*Dose.*—½ to 1 grain in keratin coated pills.

A greyish yellow powder, soluble in water, given as an alterative in syphilitic affections.

**Barium Chloratum, P.G.** Barium Chloride.

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.).

In colourless crystaline plates, with bitter saline taste. Soluble 1 in 2½ of water. Solution is poisonous to bacteria. Mostly used as a test, but possesses cardiac, tonic and alterative properties.

**Syrupus Sulphatum** (H. P. Symonds).

*Dose.*—½ an ounce (15 Cc.) Sulphate of Beberine 1 grain, Sulphate of Quinine 2½ grains, Sulphate of Iron 2½ grains, Sulphate of Potassium 8 grains, Sulphate of Sodium 8 grains, Diluted Sulphuric Acid 5 minims, Glycerin 12 minims, Distilled Water 48 minims; dissolve and add Syrup to ½ ounce. Filter. Add to each pint, Chloroform 10 minims, mixed with 20 minims of

Spirit. Is useful for boils, &c. The sulphates give off some sulphuretted hydrogen, and the bases act as tonics.

**Pilulæ Sulphatum.**

The salts of half-an-ounce of the above syrup may be prescribed in two pills under this name.

## CALENDULA.

### Marigold.

From the fresh leaves and flowers of this plant, *Calendula officinalis*, a **Tincture** is prepared equal in strength to 1 of the dried drug in 10 of equal parts rectified spirit and water.

A lotion prepared from the tincture diluted, or an ointment prepared from tincture 1 part, and spermaceti or simple ointment 9 parts, is said to have a beneficial influence over wounds, especially incised wounds. It promotes cicatrization, with but little suppuration.

One minim of tincture with boric acid 2 to 4 grains is a useful insufflation in otorrhœa.—Pr. xxx.366.

**Tinctura Calendulæ Florum, B.P.C.**

Marigold Flowers, in No. 20 powder 1. Alcohol (60 per cent.) *q.s.* to 5. *Dose.*—5 to 20 minims (0·3 to 1·2 Cc.).

## CAMPHORA.

### Camphor (*Off.*).

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.) in a pill, or alcoholic solution dropped on sugar or in water, or as camphor water. Camphor, besides being sold in bells, is now prepared in rectangular blocks, as well as in a sublimed powder, **Flowers of Camphor.** The latter is a very convenient form for making pharmaceutical preparations.*

Cases of Camphor habit.—B.M.J. ii 58.84.

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* An Essential Oil of Camphor is imported from Japan, generally of a pale straw-colour but varying in shade to a deep black. It has Sp. Gr. 0·898 to 0·990; is a by-product obtained in the production of camphor, and consists principally of a terpene, with about 1 in 4, or a variable quantity, of camphor in solution, together with safrol and eugenol (*v. pp.* 479, 484). It has a persistent odour, like that of camphor and sassafras or cinnamon. Similar productions have at times come from Formosa and Borneo. They are used by the Chinese as rubefacients in rheumatism, and may prove useful as antiseptics.—P.J. 1885.302; 1887.266.

Camphor is soluble in water, 1 in 700, in 90 per cent. ohol 1 in 1¼ (more soluble in absolute alcohol), freely uble in ether, chloroform, volatile and fixed oils. mphor, when mixed in certain proportions with many ystalline substances, causes mutual liquefaction of the o—*e.g.*, camphor 4, phenol 12, and water 1 (see idum Carbolicum); camphor 1, and chloral hydrate 1 e Chloral Hydras); camphor 2 and menthol 3 (see enthol); camphor 1 and thymol 1 (see Thymol); mphor 2 and β-naphthol 1 (see Naphthol); camphor and salol 3 (see Salol); camphor and butyl-chloral drate liquefy when heated, but solidify on cooling; so ll camphor 84 and salicylic acid 65 (see Camphora licylata). Camphor is powdered by rubbing with a v drops of alcohol. Besides the official preparations, mphor Water* (Camphor Julep or Mixture) 1 in 1,000, niment 1 to 4, Ammoniated Liniment 1 in 8, Spirit 1 10, and Compound Tincture 0·34 per cent., the llowing are in use:—

**qua Sedativa.** Eau Sedative de Raspail. (*Codex.*)

Spirit of Camphor 10, Sodium Chloride 60, Solution Ammonia 60, Distilled Water, 1,000. Applied as a mpress for migraine and rheumatism, and to contusions.

**amphor Ball.**

Spermaceti 4, White Wax 12, Oil of Almonds 5; elt in a water bath, and add Flowers of Camphor 4. issolve, and when nearly cold pour into boxes or ould in gallipots. Useful for chapped skin.

**amphorated Chalk.**

Flowers of Camphor 1, Precipitated Calcium Carbo-ate 7. Mix in a mortar, adding a few drops of cohol, and sift for use as a dentifrice.

**amphorated Carbolic Acid**, *v.p.*10.

**lixir Camphoræ.** *Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

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* Aqua Camphoræ (*Off.*).—*Dose.*—½ to 2 ounces (15 to Cc.). Camphor in flowers 1, Alcohol (90 per cent.) *q.s.* to Distilled Water to 1,000. Camphor is rendered more luble in water by the presence of carbonic acid, acid rbonate and carbonate of magnesium, sugar, and myrrh, d less soluble by bromide of potassium, liquor potassæ, lphate of magnesium, alkaline carbonates, and many other lts.—P.J. [illegible],619.

Spirit of Camphor 10, Syrup 5, Distilled Water 1. Contains 1 in 16. It mixes and diffuses well in water.

**Oleum Camphoratum, P.G.iv.** 1 to 9 of Olive Oil and **Oleum Camphoratum Forte, P.G.iv.** = Linimentum Camphoræ (*Off.*) 1 to 4 of oil.

**Pilula Camphoræ.**

The most suitable excipient to form camphor into pills is about ⅓ its weight of powdered curd soap and a few drops of proof spirit, or a little lard in a warm mortar.

Pilules and lozenges of camphor are prepared by confectioners, of uncertain strength.

**Spiritus Camphoræ Fortior.**

*Syn.*—RUBINI'S SOLUTION OF CAMPHOR.

Flowers of Camphor 1, Absolute Alcohol (by weight) 1. *Dose* for diarrhœa.—2 to 5 drops on sugar every 5, 10, or 15 minutes, according to the severity of the symptoms.

**Camphoid,** a substitute for Collodion.

A solution, 1 in 40, of pyroxylin, in equal parts by weight of camphor and absolute alcohol. May be used as a vehicle for the application to the skin of such drugs as iodoform, phenol, salicylic acid, resorcin, iodine, chrysarobin, and ichthyol. It may with advantage be made to contain half the above quantity of camphor, except in the case of iodoform, which dissolves in it to the extent of 1 in 10. The preparation dries in a few minutes, leaving an opaque film, which is not easily washed off.—P.J. 1892,831; B.M.J. i.'92,1086.

**Acidum Camphoricum, P.G.iv.**

*Dose.*—10 to 20 grains (0·65 to 1·3 Gm.) in cachets.

An acid formed by oxidation of camphor with nitric acid, in odourless crystalline scales, very slightly soluble in water, with a faint aromatic odour, and slight saline camphor taste. Some is formed in "Sanitas" (*v.p.*395).

Used with success in night sweats of phthisis (in 60 per cent. of cases), also in cystitis, and as an intestinal disinfectant. Is eliminated with the urine, which it renders clear and acid, in 2 to 5 hours. Two cases of phthisical diarrhœa, unaffected by other remedies, arrested by three 1-gramme doses.—L. i.'92,47; B.M.J. i./92,947; Th. Gaz. 1890,260; M.C. June '97,200; Ed.M.J.1897,45.

**Camphora Monobromata,** **Monobromated amphor, Camphor Monobromide, U.S., P.Jap.**

*Dose.*—2 to 10 grains (0·12 to 0·65 Gm.) in pills, ith ⅓ of its weight of curd soap and proof spirit *q.s.*

A substitution compound in which one atom of hydroen in camphor is replaced by bromine. In colourless risms, soluble in ether, alcohol, and fixed oils, insoluble water. It has a slight odour of camphor and a turentine-like taste. It is used as a hypnotic; large oses produce clonic convulsions and muscular trembling.

Epileptic vertigo and cases of petit mal are certainly nproved by it.—B.M.J.E. ii./99,24.

**Perles** are prepared containing about 2 grains (0·13 Gm.) in each. The following is also recommended, but is strongly alcoholic and very nauseous :—

**Elixir Camphoræ Monobromatæ.**

Monobromated Camphor 1, Spirit of Cinnamon (1 in 0) 10; dissolve and add Red Elixir (*v.p.*223) 60, yrup *q.s.* to 100. *Dose.*—½ an ounce (15 Cc.).

Not suitable for asylum practice, on account of its comarative insolubility in any but irritating media.—Pr. iii.324.

In delirium tremens 7-grain doses often repeated ecommended, also in insomnia, chorea, and hysteria.—B.F.M.Ch.R. lviii.459; L. ii./76,698.

In whooping-cough of children, 5-grain doses serviceable, and useful in asthma.—B.

Used in epilepsy, without good results.—L. i./80,553; B.M.J. i./80,548.

Combined with belladonna, useful in enuresis where otassium bromide unsuitable.—Pr. xliii.141; B.M.J. /89,1463.

In perles, 3 to 6 daily for the vertigo of epilepsy.—I.C. Oct./93,45.

**amphora Salicylata,** **Salicylated Camphor, Camphor Salicylate.** *Dose.*—1 to 5 grains (0·065 to 0·32 Gm.), in pill, with suet or lard.

Prepared by heating together carefully 84 parts of amphor and 65 parts of salicylic acid, until a liquid omogeneous solution is formed, which becomes a cryslline mass on cooling. This again becomes unctuous hen pounded, and liquefies when rubbed on the skin. may be obtained in definite crystals from a benzol solution. It is slightly soluble in water and glycerin, about 1 in 20 of fats and oils, and is decomposed by hot alkaline solutions. By boiling with water it hydrates into an oily liquid. Applied as an ointment, it was found useful in lupus and rodent ulcers.—P.J. 1881,438, *ex* Annali di Chimica, lxxiii.193.

May prove serviceable in some forms of diarrhœa and to form antiseptic dressings.

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## CANNABIS INDICA.

### Indian Hemp (*Off.*).

The dried flowering or fruiting tops of the female plant of *Cannabis sativa*, grown in India (not deprived of resin). A study of its pharmacology.—B.M.J. ii./99,1354.

**Extractum Cannabis Indicæ** (*Off.*).

*Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.), in pill with lycopodium. Is an alcoholic extract, of which 1 dissolved in 20 of alcohol (90 per cent.), forms

**Tinctura Cannabis Indicæ** (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.), suspended in some mucilaginous fluid.

Cannabis is useful for chordee and asthma, also as an aphrodisiac, and is successful in migraine.

It is *the* remedy for menorrhagia.—B.M.J. i./83,1002.

For dull continuous headache, the extract is very useful, in doses of ⅓ to ½ grain.—B.M.J. i./87,97.

Should be given in minimum doses, gradually increased.—L. i./90,621. Toxic effects.—L. ii./96.1078.

Cannabis useful in dysmenorrhœa, especially with gelsemium; with nux in incipient delirium tremens, nausea, and paroxysmal colic; in menorrhagia, supra-orbital neuralgia, and cough of phthisis. Should be given in small and frequent doses.—Pr. xlv.375; Th. Gaz. 1890,523.

Cannabis of great use in mental worry and restlessness, combined with strychnine, with chloral in chorea, and alone or with ¼ gr. zinc phosphide in migraine.—B.M.J. ii./91,12; Pr. xlvii.140,296.

Aqueous preparations recommended for relief of cough phthisis.—B.M.J. i. 95,300. (Cannabin Tannate ght be used.)

Poisonous symptoms after two doses of 12 minims h.—L. ii. 98,1701.

**nnabin Tannas, Cannabin Tannate.**

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.), 4 grains ng an average dose, taken an hour before bedtime, in ill with glycerin of tragacanth or in solution of sal latile and water.

A yellowish brown powder, prepared from *Cannabis dica.* Tastes like tannin, has a not unpleasant smell, nsoluble in water and ether, slightly soluble in alcohol, l dissolves easily in water made slightly alkaline. It stated to be free from the two volatile oils contained *Cannabis Indica,* which are rapidly-acting irritating isons. It does not produce intoxication, and is d to be a useful hypnotic, that, unlike opium and rphine, rarely or never deranges the digestive and retory organs, bowels, &c., and is specially valuable in rvous sleeplessness and in acute mania; 8-grain ses produce calm and quiet sleep. Is a valuable nedy for dysmenorrhœa and menorrhagia.

In insomnia good effects were produced in 37 out 63 cases, moderately good in 15. The patients oke with no toxic after-effects.—Pr. xxix.377; M.P.C. '82,268; M.R. 1882,453.

Cannabin Tannate most useful as a hypnotic and in atment of hysteria, but does not generally replace nnabis.—Th. Gaz. 1890,523; Pr. xlv.375.

**annabinon.** *Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.).

A purified resin, dark brown in colour, and of the nsistence of treacle. Has also been used as a lative to relieve mania, hysteria, and sleeplessness, d is said to be more certain and powerful than the nate of cannabin. For dispensing purposes, a dilution made of 1 to 9 of milk sugar. **Cannabinol,** a xic red oil, is a constituent of Cannabinon and of **aras** (the natural resin), as well as of **Ganga** (the icial tops) and **Hashish,** the leaves, small stalks, d fruits.—Jour. Chem. Soc. 1896,69,539.

On hashish pure and cannabinon; use contra-indi- ted when heart disease exists.—L. i./87,542.

# CANTHARIS.

## Cantharides (*Off.*).

*Syn.* LYTTA; SPANISH OR BLISTERING FLY.

*Dose.*—$\frac{1}{16}$ to $\frac{1}{2}$ grain (0·004 to 0·032 Gm.) in pill. Better given as tincture.

Of this, the dried insect—*Cantharis vesicatoria*—there are the following preparations official:—Acetum, 1 in 10 (of 50 per cent. Acetic Acid); Emplastrum, about 1 in 3; Tinctura, 1 in 80; Unguentum, 1 to 10 of Benzoated Lard; Liquor Epispasticus, 1 in 2 (*v.p.* 129); and Emplastrum Calefaciens, about 1 in 24 (as in B.P. 1885, but Oil of Nutmeg omitted).

Hæmaturia is checked by five-minim doses of tincture of cantharides.—B.M.J. ii./98.1551. Useful in incontinence.—B.M.J. i.'01.752.

**Mylabris phalerata** and *sp.* are official in I.C. Add. for making external applications in India, *v.p.* xxvii. These contain about 1 to 2 per cent., or more than double the amount that Cantharides do of the neutral crystalline principle—

**Cantharidin,** in flat glistening rectangular prisms, which melt at 218° C., and volatilize in very irritating white fumes. It is soluble 1 in 84 of chloroform, 1 in 38 of acetone, and about 1 in 150 of acetic ether. Soluble also in ether, benzene, glacial acetic acid, fats and oils, 1 in 1,000 of absolute alcohol, insoluble in water. Solutions of Cantharidin, as well as other preparations of cantharides, are employed for stimulating the growth of the hair, in alopecia, and preventing its falling off, as in the following preparation:—

**Linimentum Crinale** (Squire).

Cantharidin 1 grain, Acetic Ether 6 drachms; dissolve with a gentle heat, and add Rectified Spirit 3 ounces, Castor Oil 1 ounce, Oil of Lavender 15 minims.

This is too strong to be used freely. It is better to dilute it with an equal quantity of spirit, and the head should be washed after applying it a few times, to prevent the cantharidin accumulating.—L. ii. '70.713.

Suggested use of Cantharidin for making the official preparations.—P.J. i. '98.255.

**Anodyne Vesicant.** Camphor 20, Chloral Hydrate 30, place in a bottle, liquefy by heat of water bath, and add Cantharides 10. Digest at 140° to 160° F. for one hour, and strain with pressure.

**aarta Epispastica, B.P.** 1885.

Paper spread with a composition of Spermaceti, Olive l. Resin, and Canada Balsam, impregnated with ntharides.

**llodium Vesicans** (*Off.*).

Blistering Liquid 40, Pyroxylin 1.

Dissolve. It evaporates quickly, and its action is con- ed to the part on which it is painted. It is specially ful to apply to the temple or behind the ear, or other ts of the body where the following preparation would t locate itself.

**mplastrum Cantharidis** (*Off.*).

Cantharides 7, Yellow Beeswax 4, Lard 4, Resin 4, ap Plaster 1.

To the melted resin add the soap plaster, then the wax l lard, liquefy, and as the mixture cools sprinkle in cantharides.

**mplastrum Vesicans, U.C.H.**

Cantharidin 1, Chloroform *q.s.*; heat to dissolve and l to Yellow Wax, Prepared Suet and Resin, in equal portions, previously melted together, 499.

**iquor Epispasticus, Blistering Liquid** (*Off.*).

Cantharides in powder 1, percolated with Acetic Ether . to 2. This preparation and the corresponding llodion are about double the strength of those in P. 1885.

**nguentum Cantharidis** (*Off.*).

Cantharides, bruised, 1, Benzoated Lard 10, digested 120° F. for twelve hours, strained, and pressed.

**nguentum Cantharidum, P.G.iv.** Cantharides 2, Olive Oil 2, Lard 2. Heat 10 hours in steam-bath, add Yellow Wax 1, Turpentine (oleo-resin) 2, Euphorbium in powder 1. For veterinary use.

**otassii Cantharidas.**

*Dose.*—$\frac{1}{400}$ to $\frac{1}{200}$ grain 0·00016 to 0·00032 Gm.) podermically.

Prepared by heating Cantharidin 10 and Potassium ydroxide 5¾, in Water 200, to dissolve, and crystal- ing by cooling. In minute white needles, soluble 1 in 5 of water.

**Liebreich's Solution for Tuberculosis** was prepared similarly, and contained 1 of Cantharidin in 5,000.

*Dose* by hypodermic injection.—$\frac{1}{2}$ to 1 Cc., containing 1 to 2 decimilligrammes ($\frac{1}{650}$ to $\frac{1}{325}$ grain) of cantharidin. Was said to cause transudation of blood serum at the seat of tuberculosis.

It gave some beneficial results in lupus and phthisis; but fell into disuse on account of its production of renal disturbances.—L. i./92,47; B.M.J. ii. 91,1349; i./92,40; B.M.J.E. i./91,173.; ii./92,35.

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## CAPSICI FRUCTUS.

### Capsicum Fruit (*Off.*).

*Dose*—$\frac{1}{2}$ to 1 grain (0·032 to 0·065 Gm.), in a pill.

The dried ripe fruit of *Capsicum minimum*.

**Capsicin. Oleo-Resin of Capsicum** (U.S.P.).

Prepared by exhausting capsicum fruit by percolation with ether, distilling off the ether, and pouring the liquid portion of the remainder on a strainer, in order to separate and reject the fatty matter.

*Dose.*—$\frac{1}{8}$ to $\frac{1}{4}$ grain (0·008 to 0·016 Gm.) in a pill.

**Emplastrum Capsici, U.C.H.**

Oleo-Resin of Capsicum 5, Soap Plaster, melted, 95.

Capsicum plasters in rubber combination are also made in sheets 7 in. by 5 in., and yard rolls 7 in. wide.

**Gyrol Pencils.** A French specialty possessing the revulsive properties of Capsicum.

**Tinctura Capsici** (*Off.*). 1 in 20 of 70 % alcohol.

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

Given internally it increases the flow of saliva and gastric juice. It also increases the peristalsis of the intestine, relieves atonic dyspepsia, and is useful in dipsomania—it allays the craving for alcohol. The official tincture is too weak for external use as a rubefacient.

**Tinctura Capsici Ætherea.**

Prepared as official tincture, with pure ether *vice* alcohol. Can be applied more freely on account of rapid evaporation, *v.p* 47.—L. i./90,1066.

**Tinctura Capsici Fortior, B.P.C.**

*Dose.*—1 to 3 minims (0·06 to 0·18 Cc.). Principally used externally. *Is practically identical with Concentrated Tincture of Capsicum* (Turnbull).

Capsicum in No. 40 powder 1, Alcohol (90 per cent.) s. to 3.

This is too irritating generally. The writer has found e following approved of:—

**inimentum Capsici.**

Capsicum Fruit in coarse powder 10, percolate with lcohol (90 per cent.) to 70, and add Oleic Acid 10, Oil Lavender ½. Painted on the skin, or applied sprinkled piline or lint covered with American oiled cloth, in hour it produces a red glow; its action may be rested by smearing the part with vaseline. Useful chest affections, rheumatism, sciatica, &c. Does not ister or redden the skin, hence may be applied to posed parts. May also be prepared double the above rength.

**iquor Capsici Compositus. Linimentum Capsici Compositum, P. Aus. Add.**

Black Pepper 10, Capsicum Fruit 10, Venice Soap 5, Camphor 25, Alcohol 800; macerate 8 days, express, ld Oils of Rosemary, Lavender and Clove, of each 5, il of Cinnamon 1, and Ammonia Solution (10 per cent.) 00.

**nguentum Capsici** (*Off.*).

Capsicum Fruit, bruised, 12, Spermaceti 6 (better 9), live Oil 44. Heat on water-bath for 1 hour and strain. esembles Smedley's Chillie Paste.

**nguentum Oleo-Resinæ Capsici, B.P.C.**

Oleo-Resin of Capsicum, U.S.P., 1 ounce, Yellow ax ½ ounce, Benzoated Lard 4 ounces. Melt the ax and lard, add the oleo-resin and stir until cold. or use as the liniment. Is too strong for tender skins —will bear dilution 3 to 6 times.

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## CARBONIS TETRACHLORIDUM.

### Carbon Tetrachloride.

A heavy, volatile, and mobile chloroform-like liquid, as a pleasant pungent, quince-like odour if pure. Sp. Gr., 56. The vapour inhaled relieves hay-fever. Employed locally, sprinkled on piline or lint covered with merican oiled cloth, it quickly relieves neuralgic pains. las been used as, but is not a successful anæsthetic.— . i./67,574,660,693,762,791.

## CARMINUM.

### Carmine.

A brilliant red colouring matter prepared from the cochineal insect—*Coccus Cacti*. It is insoluble in water, but entirely soluble in aqueous ammonia. It is not employed therapeutically, but is much used as a colouring agent and for staining histological specimens.

**Glycerinum Carmini,** Glycerin of Carmine.

Carmine 3, Distilled Water 3, Solution of Ammonia, B.P. 4; dissolve and add gradually Glycerin 18. Heat in a water-bath till free from ammoniacal odour. When cold add Solution of Ammonia 1 to prevent gelatinization and Distilled Water *q.s.* to 24. Being nearly neutral it dilutes to a pure carmine colour without a purplish tint.

**Carmalum.**

Carminic Acid 1, Ammonia Alum 10, Distilled Water 200. Heat to dissolve. Cool and filter. Suitable for staining after osmic acid.—P.J. 1893.264.

**Chloral Carmine.**

Carmine 2, Absolute Alcohol 20, Hydrochloric Acid 2. Heat on a water-bath for 30 minutes, and add Chloral Hydrate 25. Cool and filter. For staining pollen nuclei.—P.J. 1893,685.

**Liquor Carmini,** Solution of Carmine.

Carmine 1, Distilled Water *q.s.* to moisten, Strong Solution of Ammonia 1, dissolve, and add Distilled Water 10.

Used to colour various preparations for the toilet, &c.

**Liquor Cocci,** Liquid Cochineal.

Cochineal (not bruised), Potassium Carbonate, of each 1, Distilled Water 8. Heat in water-bath for half an hour; gradually add Acid Potassium Tartrate 1, stir well, continue the heat, and add Potash Alum in powder 1; heat five minutes more, strain through absorbent wool, and pour over contents of strainer sufficient Distilled Water to make strained product measure 8: when cold add Chloroform ½ per cent. by volume.

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## CASCARA SAGRADA (*Off.*).

*Syn.*—SACRED BARK.

The dried bark of *Rhamnus purshianus*.

*Dose.*—3 to 15 grains (0·2 to 1 Gm.) in cachets.

Tschirch finds that Cascara, as well as Rhamnus rangula, Rhubarb and Senna, also Aloes, contain not ly oxymethyl-anthraquinones (chrysophanic acid and nodin), but glucosides such as chrysophan, cathartic id and frangulin, from which oxymethyl-anthraquinone parates on hydrolysis or contact with alkaline substances the presence of oxygen. This process takes place owly in the intestines and the products formed, rticularly the Emodin, exercise a laxative action on the owels. The proximate principles he has isolated are—

Anthraglucorhein, Anthraglucorhamnin, An-hraglucosagradin, Anthraglucosennin. These e only suitable for administration in a pilular form.—erck's Rep. 1898,39.

**ascara Capsules** represent half a drachm of Liquid, or 3 grains of Solid, Extract. Capsules of double this strength are also prepared.

*Dose.*—1, 2, or more. Some contain, in addition, 1 ain Euonymin in each. *Dose,* 1 or 2 at bedtime.

**yrupus Cascaræ Aromaticus** (*Off.*).

*Syn.* Elixir Cascara Sagrada, B.P.C., 1894.

Tincture of Orange 2, Alcohol (90 per cent.) 1, innamon Water 3, Syrup 6, Liquid Extract of Cascara agrada 8.

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.). Very small oses three times a day are pleasantly laxative. The aste is agreeably disguised.

**xtractum Cascaræ Sagradæ** (*Off.*).

*Dose.*—2 to 8 grains (0·13 to 0·52 Gm.) in pill.—s now a dry aqueous extract (*Cascara Sagrada* should e indeclinable.)

**xtractum Cascaræ Sagradæ Liquidum** (*Off.*).

*Dose.*—30 to 60 minims (1·8 to 3·5 Cc.).

Is an aqueous extract preserved by the addition of ne-fourth its volume of alcohol (90 per cent.). Deosits on keeping, and ferments in hot climates; the riter prefers alcohol (20 per cent.) as a menstruum. Vith this a more active preparation is formed. It may e made miscible with water by the addition of half its olume of sal volatile.—P.J. 1891,250; 1892,827.

ozenges, with fruit basis, contain 2½ grains of Extract flavoured with Peppermint. *Dose.*—1 or 2.

**Mistura Laxativa, U.C.H.** *Dose.*—¼ to 1 ounce.

Liquid Extract of Cascara 1 drachm, Liquid Extract of Liquorice 1 drachm, Sodium Bicarbonate 5 grains, Chloroform Water to 1 ounce.

**Extractum Cascaræ Sagradæ Liquidum Insipidum, B.P.C.**

*Dose.*—30 to 60 minims (1·8 to 3·5 Cc.).

The bark in powder mixed with 10 per cent. of Light Magnesia, is made into a paste with Water, and dried, then powdered and percolated with Alcohol (60 per cent.). The first 85 per cent. of percolate is reserved and the remainder concentrated to a soft extract, mixed with the reserved liquid and Alcohol (60 per cent.) *q.s.* to 100.

**Extractum Rhamni Purshiani fluidum, P. Aus. Add.**, is similar.

**Vinum Rhamni Purshiani, P. Aus. Add.**

*Dose.*—1 to 3 drachms (3·5 to 10·5 Cc.).

Malaga Wine 150, Gelatin 0·2, dissolved in Distilled Water 2, add Fluid Extract of *P. Aus. Add.* 100, Syrup of Orange Peel 50.

**Pastils of Cascara** each contain 2½ grains of Extract, and are coated with Tolu. *Dose.*—1 or 2.

**Pilula Cascaræ Composita.**

Extract of Cascara 1½, Extract of Nux Vomica, Alcoholic Extract of Belladonna, of each ½, Milk Sugar 1. In grains for one pill, or in grammes for fifteen.

*Dose.* One before dinner or at bed-time.

Is an agreeable and efficient aperient, has certain and gentle action continuing beyond the first day; good for constipation and liver inaction, especially during sea-trips.—B.M.J. ii./93,596.

**Syrupus Cascaræ Sagradæ, B.P.C.**

Liquid Extract of Cascara Sagrada 4 ounces, Liquid Extract of Liquorice 3 ounces, Carminative Tincture 2 drachms, Syrup sufficient to produce one pint. Mix.

*Dose.*—As an aperient, 1 to 4 drachms (3·5 to 15 Cc.); or for children, one-half to a teaspoonful, according to age. As a laxative, very small doses should be taken three times a day.

**Tablets,** sugar coated, 1, 2, 3, 4, and 5 grains.

*Dose.*—1 or more according to size.

**Tinctura Cascaræ Sagradæ.**

Percolate 1 to 5 with Alcohol 60 per cent.

*Laxative dose.*—10 to 60 minims (0·6 to 3·5 Cc.).

**inctura Laxativa.**

*Dose.*—20 to 60 minims (1·2 to 3·5 Cc.)

Liquid Extract of Cascara Sagrada 2, Aromatic Spirit f Ammonia 2, Spirit of Chloroform 2, Tincture of elladonna 1, Tincture of Nux Vomica 1. This an agreeable and elegant form of administering scara, being perfectly miscible with water; it is a xative aperient at sea of more than immediate temporary alue.—B.M.J. ii./93,596.

In obstinate constipation, 20 drops of the liquid extract, times a day, gradually lessened, establishes a habit of gularity; for children smaller doses give good results.—.M.J. i./83,456; L. i./92,519.

Acts as a vegetable bitter, increases peristalsis, empties ectum, and is useful for internal piles.—Edin. Med. our. 1884,753,845.

Is certainly a good laxative in habitual constipation.—.M.J. i./84,556.

**ascara Amarga, Picramnia Bark.**

A fluid extract of this is said to be tonic, alterative, d antisyphilitic.—Th. Gaz. 1890,451.

## CAULOPHYLLIN.

*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.) in a pill, ith glycerin of tragacanth.

A brown resinoid powder obtained from the root of *aulophyllum thalictroides*—blue cohosh, pappoose, or uaw-root. It possesses diuretic, diaphoretic, and nthelmintic properties, and is used as an emmenagogue, arturient, and antispasmodic. It appears to exert a irect influence on the uterus.

## CEREVISIÆ FERMENTUM.

## Beer Yeast. B.P. 1885.

*Dose.*—½ to 1 ounce.

Yeast is in use to add to poultices for application to nhealthy and sloughing wounds. Internally it is given o check the growth of boils, especially when they recur ime after time; by some is considered to be a good emedy for diabetes, enabling patients to take more arbohydrates, and has been prescribed for septic endoarditis.

Yeast dried at 30° C. is recommended in doses of 0·5 Gm. for constipation, given in keratinised capsules and tablets; it is a light grey powder.—P.J. i./01,145.

**Levurine.** A French specialty prepared from yeast.

*Dose.*—A teaspoonful with meals in beer or sweetened water; is a coarse brown only partially soluble powder. said to be always active and constant in composition. Is recommended for cases of septicæmia and carbuncle. Therap. 1900,126.

**Nargol, Mercurol** (*v.p.*264), **Cuprol** and **Ferrinol** are compounds of Nucleinic Acid with respectively Silver (L. ii./00,1742), Mercury, Copper and Iron.—P.J. ii./00,305.

**Nuclein.**—*Syn.* **Nucleol.**

Obtained from yeast, is believed to represent the active principles originating from its organic life. De Backer, of Paris, introduced in 1893 the yeast treatment of disease. V. C. Vaughan in America, in 1894, advocated it for some forms of tuberculous disease by a fluid obtained from yeast, which was said to contain Nuclein and Nucleinic Acid. This fluid tended to stimulate the formation of white blood corpuscles, and hence to the destruction of the bacilli of disease. Nuclein is considered to be a compound of Nucleinic Acid with albuminates and hydrocarbons.—Med. Ann., 1895. 38,577; 1896. 52,578.

Good results from injections of Nuclein in tuberculosic patients.—Ther. Gaz., Jan. 1895. June 1895.

Recommended for diphtheria.—Med. Rec. Jan. 1895; New York Med. Jour., April 13, 1895.

The method of De Backer in the cure of tubercle and cancer.—B.M.J. ii./97,802.

Yeast and Nuclein suggested as a treatment for endocarditis. B.M.J. i./98,936.

**Nuclein Solution** 5 per cent. A specialty.

*Dose.*—10 to 60 minims by mouth or hypodermically.

**Liquor Nuclei.** A specialty.

*Dose.*—2 drachms every 3 hours.

Said to be obtained from both animal and vegetable tissues.

**Tablets**, 1 grain (0·065 Gm.).

Septicæmia, obscure cases treated with advantage.—B.M.J. i./00,1342; L. i./00,1591.

The role of Nuclein in metabolism.—B.M.J. i./00, 04; and in birds, L. ii./00,505.

The metabolism of Nucleins under physiological and hological conditions.—L. ii./98,453.

Endocarditis treated with success.—L. ii./99,1225.

Is useful for tropical boils and carbuncles.

## CHLORAL HYDRAS.

**hloral Hydrate** (*Off.*), TRICHLORETHYLIDENE GLYCOL.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.) in aqueous lution, or in chloroform water well diluted.

In colourless crystals, soluble 3 in 1 of water—1 grain y be held in solution in one minim of aqueous solution. eely soluble also in alcohol and ether, and 1 in of chloroform, likewise soluble in oils and fats. loral Hydrate heated first liquefies, then boils and latilises without residue; 5 grains may be made into pill with ½ grain Canada balsam, or with a little syrup d tragacanth. As a hypnotic, it is often combined with iates or morphine, or bromides, but it is incompatible th quinine. Its use is contra-indicated in heart affections, right's disease, and when the vital force is very weak. isonous doses are best treated after emetics, &c., with podermic injection of strychnine hydrochloride, and halations of nitrite of amyl. Picrotoxin $\frac{1}{20}$ grain is id to be enough antidote for 30 grains of chloral.— .M.J. i./75,506; L. i./91,769.

It is useful as an antidote to poisoning by strychnine, d as a remedy for tetanus. A solution of chloral ssesses powerful antiseptic properties, and an addition 3 per cent. to hypodermic injections of cocaine or orphine preserves them and lessens the danger of their dministration.

Tetanus, recovery from, under large doses of chloral. —L. ii./84,272; ii./88,1013; i./89,1152; ii./92,718; .M.J. ii./88,994; i./91,1384; Pr. xlvii.132.

Severe chorea successfully treated with repeated doses chloral.—L. ii./89,205.

### *Preparations.*

**affeine-Chloral,** *v.p.* 116.

**hloral Camphoratum, B.P.C.** (Pigmentum Chloral et Camphoræ, T.H.)

Chloral Hydrate 1, Flowers of Camphor 1.

Rub together in a warm mortar until completely liquid and filter. It remains permanently liquid at ordinary temperatures, and forms a valuable application painted on painful parts in neuralgia and rheumatism. It mixes freely in alcohol, ether, oils, and fats, but not with water or glycerin: the camphor is precipitated on its addition to these. The compound (Chloral and Camphor) dissolves the alkaloids atropine, morphine, and veratrine to the extent of 1 in 30 or more, but their salts are less soluble in it. Liquefactions of a similar kind take place on mixing and gently heating respectively

Menthol 1, Chloral Hydrate 1.
Phenol 3, Chloral Hydrate 1.
Thymol 1, Chloral Hydrate 1.

Quinine salts and chloral hydrate also form liquid combinations.

**Liquor Bromo-Chloral Compositus, B.P.C.** *Dose.*—½ to 2 drachms (1·8 to 7 Cc.). 1 drachm contains 10 grains each of Chloral Hydrate and Potassium Bromide.

Chloral Hydrate 1600 grains, Tincture of Indian Hemp 400 minims, Tincture of Fresh Orange Peel 400 minims, Henbane Juice 1600 minims, Syrup 3¼ ounces, Liquid Extract of Liquorice ½ ounce. Dissolve, add Potassium Bromide 1600 grains dissolved in Distilled water 7 ounces, filter, and add Distilled water to 20 ounces.

Resembles the American specialty **Bromidia.**

**Suppository of Chloral.**

Chloral Hydrate 5, Oil of Theobroma 10. In grains, for one suppository, in grammes, for fifteen.

Pound together and press into the mould. Heat must not be applied, else the mixture will not set firm. It is useful in infantile convulsions, where nothing can be administered by the mouth. It should be forcibly retained for a few minutes with the finger, if necessary. It is, nevertheless, locally irritating.

**Syrupus Chloral** (*Off.*). *Dose.*—½ to 2 drachms (1·8 to 7 Cc.). Contains 10 grains in 1 drachm.

Chloral Hydrate 80 grains, Distilled water 1½ drachms. Dissolve and add Syrup *q.s.* to 1 ounce.

**Tablets,** 5 and 10 grains (0·32 and 0·64 Gm.) *to be dissolved.* *Dose.*—1 or more.

**loralamide.**—*Syn.* Chloral Formamide, **P.G.**

*Dose.*—15 to 45 grains (1 to 3 Gm.). in weak ituous or acidulated solution.

n colourless inodorous shining crystals with a faintly er taste; soluble about 1 in 20 of water, 1 in 2 of hol. Should not be heated over 120° F., or it is omposed. It is incompatible with alkalies.

Recommended as a hypnotic, specially suitable in rasthenia, spinal affections, and heart disease. Has analgesic action, and has proved unsatisfactory in hisis. An increase of dose is not required by con-ued use. Undesirable effects are less frequent and less rked than from chloral, but action is less rapid.

Useful in nervous affections, mania, and the insomnia phthisis and typhoid.

**ixir Chloralamidi.** *Dose.*—1 ounce (30 Cc.) = 30 grains (2 Gm.).

Chloralamide 2 Gm., Alcohol 5 Cc., Aromatic Syrup Cc., Glycerin 15 Cc., Water *q.s.* to 30 Cc.

**austus Chloralamidi, G.H.**

Chloralamide 30 grains, Mucilage Mixture (*v.p.*77) 1 ounce, for one dose.

Chloralamide renders breathing slower, quickens rt action, and produces nervous excitement, ending sleep.—B.M.J. ii./90,50.

Chloralamide disorders coördinating apparatus after minishing reflexes, first slows, then paralyses respi-ory movements.—L. ii./90,38; M.C. Mar.1891,462.

Successful in insomnia, no disagreeable effects. lerated for weeks in one case, once 30 grains failed on h night.—Report of Therapeutic Committee, B.M.A. B.M.J. ii./90,237; Pr. xlv.216; P.J. 1890,104; . Gaz. 1890,627.

Results in insomnia without pain reliable, but not liable with acute pain. No after depression, no terference with temperature or digestion, no craving duced; tolerance not readily reached. Giddiness and adache sometimes followed.—B.M.J. i./91,1060; Th. z. 1891,418; M.C. Jan. 1892,251; Pr. xlvii.274.

**ablets,** 5 grains (0·32 Gm.). *Dose.*—3 or more.

**hlorobrom.**—Under this name a specialty containing 30 grains each of chloralamide and potassium bromide in an ounce, flavoured with liquorice, has been recommended for insomnia and sea sickness.

*Dose.*—½ to 1 ounce. --L. i./92,517; B.M.J.i./92,1329; L. i./95,90.

For sea-sickness, Chloralamide and Potassium Bromide 15 grains each, flavoured with tincture of orange and chloroform water, valuable. Does not interfere with digestion or temperature.--B.M.J. ii. 93.596.

**Chloralose.** *Syn.* ANHYDRO-GLYCO-CHLORAL.

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.), in cachet. In small white crystals, formed by the action of chloral on glucose; slightly soluble in water, with bitter taste. Is a useful hypnotic, inducing restful and dreamless sleep without irritation of stomach or intestines, or other disagreeable after-effects. Is less successful in pains of gout or neuralgia—P.J. 1893,609; 1894.621,1005; B.M.J.i. 93, 1233; B.M.J.E. i. 93,15,99; ii. 93,104; Pr.l.214,378.

Effect not cumulative, well borne by stomach, admissible in heart disease, highly successful in relief of insomnia from mental disturbance.—B.M.J.E. ii /93,75; ii./94,3.

Some cases of ill-effects have followed its use, especially in large doses.—Pr. lii.98; P.J. 1894.735; B.M.J. ii. 93. 233,490; B.M.J.E. ii. 93.91. May cause somnambulism.—M.C. Sept. 94,449; Pr. liii.8. Poisonous symptoms followed one dose of 20 centigrammes.—L. ii./95.684. Also from single dose of 8 grains.—L. ii./00,1803.

Its chief value is in epileptic insomnia.—B.M.J.E. i./95,104.

**Hypnal.** *v.p.*175.

**Uralium**, *v.p.* 466.

## CHLOROFORMUM.

## Chloroform (*Off.*).

*Syn.* TRICHLORO-METHANE; FORMYL TERCHLORIDE.

*Dose.*—1 to 5 minims (0·06 to 0·3 Cc.), in mucilage and water, or in a perle; 3 drops = 1 minim. Small doses may be given as chloroform water or spirit of chloroform.

This well-known anæsthetic is soluble in all proportions in absolute alcohol, pure ether, fixed and volatile oils, and 1 in less than 200 of water (this should not give a greasy stain to the bottle). It does not mix with glycerin. It is a solvent of mastic and most resins, many

loids, iodine, bromine, and of phosphorus and sulphur
ingly. It also dissolves gutta-percha and india-rubber.
cts on india-rubber even when vulcanized. Chloroform,
ording to the Pharmacopœia, has Sp. Gr. 1·490 to
95, boils between 60° and 62°C., and contains about
er cent. by weight of ethyl hydroxide (alcohol), which
vents its decomposition. In B.P. 1885 it had Sp.
1·497 and was said to contain more alcohol. Absolute
oroform has Sp. Gr. about 1·5002 at 15°C.; boils at
°C.; it decomposes on exposure to sunlight and air,
h formation of free chlorine and of carbonyl chloride
phosgene; the addition of alcohol is sufficient to
ck this change if kept cool, away from sunlight, and in
stoppered bottles. If shaken with one-tenth its
ume of sulphuric acid for 20 minutes, neither the acid
the chloroform should be more than faintly tinged,
should the acid, if separated and diluted with three
umes of water, develop more colour or disagreeable
our. On further dilution with five volumes of water,
s liquid should still remain transparent and colour-
s, and the addition of silver nitrate solution to it or
water which has been shaken with the separated
oroform, should cause no further opalescence. It
ves no residue or unpleasant odour during or after
ontaneous evaporation. If chloroform be shaken with
ice its volume of distilled water, the latter should not
den litmus; with solution of silver nitrate or baryta
ter it should cause no turbidity; nor should zinc iodide
l starch paper be coloured by its vapour, the liberation
iodine indicating decomposition and the presence of
orinous compounds. Of these, carbonyl chloride is
affected by shaking with mercury, which combines with
e chlorine. The presence of alcohol in chloroform pro-
ts it by combining with the decomposition products,
dering them innocuous (chlorine is converted into
drochloric acid); the addition of ¼ per cent. by weight
absolute chloroform produces Sp. Gr. 1·497, but if
ore be added it makes the Sp. Gr. too low to guarantee
original purity,—if 1 per cent. be added the Sp. Gr.
reduced to 1·4854.—P.J. 1892, 229; 1893, 792,
05, 321; 1894, 630. Chlorine cannot be detected
til sufficient has been produced to combine with all
added alcohol.—P.J. 1895, 836. Chloroform is now
gely prepared by the action of chlorinated lime on

acetone, as well as from both methylated and duty-paid alcohol.—P.J. 1889,84.

The addition of slaked lime to decomposing Chloroform removes the Carbonyl Chloride.—L. ii./98,1401; B.M.J. ii./98,1621.

The lime treatment, as a means of purifying decomposed Chloroform and maintaining it in a state of purity, found unsuccessful, while a trace of alcohol acts as a perfect preservative.—P.J. ii./98,669; B.M.J. i./01,678.

Pictet's process for purifying Chloroform consisted of fractional crystallization and distillation under reduced pressure at a low temperature.

Leader on Chloroforms in commerce.—B.M.J. ii./01,80.

Although the most generally used of anæsthetics, it fell into disfavour, and ether has somewhat supplanted it.

A death after anæsthesia from chloroform, nitrous oxide gas and oxygen.—L. i./99,1095.

**Chloroform and Cocaine Anæsthesia** (combined), *v.p.*189.

## *Antidotes and References.*

In syncope from Chloroform inhalation, 3 drops of nitrite of amyl (a capsule is convenient) restores respiration and circulation, with flushed face and return of sensibility when the pulse or breathing becomes defective, with lips blue, &c.—L. i./75,644; B.M.J. ii./88,179, 522.

If one-fourth of a grain of morphine be injected hypodermically before the Chloroform is administered, less Chloroform is needed, the insensibility is more profound, and the danger attending its use is lessened. Of importance in hot climates, where the low boiling-point of ether prevents its being used.—Pr. xxv.401; L. ii./82,1031.

Sudden application of large cloth dipped in boiling water to cardiac region in threatened death through syncope from chloroform anæsthesia, was successful in restoring.—L. i./81,1015.

Vegetable and animal infusions and decoctions can be preserved indefinitely by the addition of 1 minim of Chloroform to the ounce of liquid, if vessels containing it be well closed. Better to mix the Chloroform with double its volume of rectified spirit before adding

the fluid to be preserved.—L. ii./81,694 ; Pharm.
r. 1874,441.
esuscitation from Chloroform syncope by inversion
e body, certainly saved patient.—B.M.J. i./81,559 ;
5,1398 ; L. ii./92,949.
npleasant effects from decomposition of vapour by
e of artificial light in confined space.—Pr. xlii.418 ;
I.J.E. ii./90,6 ; Ed. M.J. 1890,392 ; L. ii./98,1401 ;
9,1727 ; B.M.J. ii./98.1621.
eport of the Hyderabad Commission shows that
hs from Chloroform are more often due to its checking
power of respiration than to arrest of heart's action;
hreatened collapse, artificial respiration recommended.
oroform in no way endangers a fatty heart, but on
trary, by lowering blood-pressure, lessens its work.
es not increase tendency to shock or syncope, but
h, if they occur, lessen danger of Chloroform inhala-
n. Subcutaneous small dose of morphine useful for
longed operations ; use of atropine condemned. If
does not cause excitement, alcohol may be given
ceding administration to give patient confidence and
dy circulation. With precautions mentioned, Chloro-
m may be given for operations with ease, and without
k.—L. i./90,149,421,486,1140,1369 ; ii./90,356 ;
M.J. ii./91,1080,1121.
Letters and discussion on.—L. i./90,213,349,372,515,
3,774,823,1389 ; ii./90, 148, 587, 659,1143,1260 ;
1,591 ; ii./91,513,737 ; B.M.J. i./90,347,359,1345,
30 ; ii./91,1088,1089 ; M.C. 1890, April, 1 ; 1891,
n. 276 ; May, 95 ; June, 176 ; L. ii./93,996.
The conclusions of Dr. Lauder Brunton on the
mmission.—B.M.J. ii./91,1088 ; L. ii./95,20,84,143.
Report and criticisms on, and references to, the Com-
ssion.—B.M.J. i./93,105,164,222,506 ; i./94,363 ;
i./93,988 ; ii./93,365,996 ; ii./94,23,33 ; B.M.J.
98,615,753,1322.
Discussion on the treatment of anæsthetic emergen-
s.—B.M.J. i./98,377 ; L. i./01,1041.
Note on mode of dying during chloroform anæsthesia.
L. i./98,329.
Remarks on 6,600 administrations at London
spital.—L. i./98,623,722.
Report on action of Chloroform.—It lowers blood
essure and weakens heart's action. Causes dilatation

of heart, but causes no change in rate of action. Cardiac failure occurs from sudden enfeeblement and dilatation, not from complete cessation of rhythm, sometimes before respiration stops, but generally after. Artificial respiration unsuccessful because heart too weak to take advantage of the fresh air. Ether does not cause cardiac dilatation before abolishing conjunctival reflex. Slowing influence of Chloroform on heart is indirect, through vagus nerves. Lowering of blood pressure, when not excessive, is protective. Changes in respiration are most dangerous, especially from easy breathing to deep and rapid respiration. Free dilution with air gives no security against an overdose, on account of change in breathing. This is often induced by sensory stimulation, such as operative interference, too strong vapour, etc.—(MacWilliam).—B.M.J. ii./90,831,890,948.

Suggested to give a dose of strychnine by mouth or hypodermically previous to Chloroform inhalation to lessen risk of cardiac or respiratory paralysis.—B.M.J. ii./91,1044,1147 ; P.J. 1891,454 ; M.P.C. 94,575.

With due care the use of Chloroform is certainly quite as safe as ether, while its effects are infinitely less disagreeable to the patient both during and subsequent to inhalation (Lombe Atthill).—B.M.J. i./92,110 ; Reply by Lawrie, 651.

Lawrie states that only risk to heart is endangering nutrition by interference with respiration.—L. i./93, 289,745 ; ii./93,24,482.

Report of the Lancet Commission on Anaesthetics.—Chloroform is a comparatively safe body, but not in any case devoid of risk. Heart failure preceded cessation of respiration in great majority of cases.—L. i./93,629, 693,761,899,971,1111,1236,1479.

Report on its action on the circulation and respiration, from the Jefferson Medical College, Philadelphia.—L. ii./93,996,1450.

Chloroform inhalation combined with morphine hypodermically in acute maniacal delirium.—L. i./93,861.

Small doses of chloroform inhaled cause more fatal results than the free use.—B.M.J. i./95,891.

On the mechanism of death from chloroform.—L. ii./97,656 ; B.M.J. i./00,468,661,762,881.

Inadvisable to continue the general use of chloroform, seeing that its death-rate is 1 in 2,300 cases, while

.E. is 1 in 5,000, ether 1 in 13,500, and nitrous de almost nil.—B.M.J. ii./97,160.

eath from drinking an ounce.—L. ii./97,384.

ecovery under strychnine after drinking two ounces. B.M.J. ii./97,1498.

Danford Thomas' scheme for reporting on deaths from oroform.—L. i./00,1811.

Dr. James Edmunds on safety in administration.— i./00,227,339,421.

Report of Anæsthetic Committee Brit. Med. Ass.— M.J. i./01,163. Criticisms on.— B.M.J. i./01,441,447.

Further report on.—L. i. 01,961,1159, *et seq.*

Recent deaths under.—L. i./98,1148,1431,1726,1760; i./98,260,718,1219,1284,1364,1566,1649; i./99,321, 8,530,1095,1649; ii./99,53,514,1227,1811; i./00, 4,632,1614; ii./00,328,633; i./01,197; B.M.J. 98,1875; i./99,468,762,881,1031; ii./99,1655.

## *næsthetic Preparations of Chloroform.*

### psules of Chloroform.

Encased in cotton wool and silk; contain 10 minims in h. Are convenient for use in asthma, &c.; may be ctured and used by the patient while in bed. Also taining 20, 30, and 60 minims,—the last for obstetric rposes, avoiding risk of overdose.

### psules of Chloroform with Ethyl Iodide, *v.p.*53.

Chloroform combined with alcohol or Eau-de-Cologne, well as Chloroform and ether mixed in various oportions, have been used as anæsthetics. Generally e volume of Chloroform is added to two volumes of er for this purpose. A mixture also which received e approval of the committee of the Medico-Chirurgical ciety is known and prepared as follows:—

**.C.E.** Alcohol, Chloroform and Ether).

Alcohol, Sp. Gr. 0·838, 1 volume; Chloroform, Sp. . 1·497, 2 volumes; Ether, Sp. Gr. 0·735, 3 volumes.

The writer has been in the habit of preparing it from e more definite ingredients—viz.:—

| | |
|---|---|
| Absolute Alcohol, Sp. Gr. 0·795 | 1 volume. |
| Chloroform, Sp. Gr. 1·497... | 2 ,, |
| Purified Ether, Sp. Gr. 0·720 | 3 ,, |

The mixture has Sp. Gr. about 1·01.

The three ingredients are intended to be mixed in such proportions that, when the quantities of each taken separately are exposed to the air in watch glasses, they shall completely evaporate in the same time. It is held they will, from this mixture, evaporate uniformly.

Our experiments with this mixture show that the rate of evaporation is nearly in accordance with this view, although separately the three ingredients vaporised spontaneously, during two trials of 5 and 25 minutes, from a dish exposing the same surface of liquid, in the proportions of Absolute Alcohol 1, Chloroform 2·5, Purified Ether 8 (all by volume). The results of evaporating the A.C.E. mixture (1, 2, and 3), having Sp. Gr. 1·007, to half its weight, were:—

(1) Evaporation with agitation at 60° to 70° F. gave a residue of Sp. Gr. ... 1·077
(2) Evaporation with agitation at 60° to 70° F. gave a residue of Sp. Gr. ... 1·074
(3) Spontaneous evaporation at 30° to 40° F. gave a residue of Sp. Gr. ... 1·073

On further testing the residues by washing out the alcohol they were found to consist approximately of Absolute Alcohol 1 volume, Chloroform 2·2, Ether 1·8. This would tend to show that the Ether in the mixture vaporises at 60° F. in a somewhat greater ratio than the formula anticipates. By increasing the quantity of Ether it passed off even more quickly,—4 and 5 volumes in place of 3 were tried,—while from a mixture of Alcohol 1, Chloroform 2, Ether 2, of Sp. Gr. 1·063, the vapour still contained more than its due proportion of Ether, although its residue when evaporated to half its weight at 60° to 70° F. had Sp. Gr. 1·094; thus it did not vary so much as the mixture of Alcohol 1, Chloroform 2, and Ether 3.

Further experiments on evaporation of A.C.E.—B. & C.D. i./00,467.

The mixture should be added drop by drop on an open mask to ensure uniformity.—L. i./95,577.

This mixture is of great service in midwifery, where complete anæsthesia is not required.

In Vienna, the writer was informed in 1884, a modification consisting of Alcohol 3, Ether 3, and Chloroform 10, all by weight, was always used at the General Hospital.

**Billroth's Chloroform Mixture.** Chloroform 3, Ether 1, Alcohol 1 (by weight); may be preceded by

enkel's Narcotic, injected hypodermically, Morphine
drochloride 0·015 Gm., Atropine Sulphate 0·0015
., Chloral Hydrate 0·25 Gm., and Water 25 Gm.—
. i./98,438.

.C.E. is as effective as pure Chloroform, and a safer
nt when deep and prolonged anæsthesia is to be
duced, while at the same time it is sufficiently
.d in its operation to be convenient for general use,
ough it takes a longer time than Chloroform (10
5 minutes) to procure anæsthesia.—Medico-Chirur-
l Transactions, xlvii.341,343.

ave typical Chloroform (sphygmographic) tracings.
ort of Hyderabad Commission.—L. i. 90,158.

afer than Chloroform and quicker than ether.—
./79.788 ; i./82,328 ; i./92,709.

hloroform 16, Ether 1 (vols.), recommended; antidote
ypodermically ether and strychnine.—L. i./98,1534.

eaths under administration.—B.M.J. ii. 88,1028 ;
0,185 ; ii./91,906 ; i. 95,282 ; L. i./92,1323 ; i./96,
1 ; i. 98,249.

death from anæsthetic use of chloroform one,
r two parts.—L. ii. 94,103. Evaporation irregular
use unsafe.—L. i./95,403.

eath-rate calculated to be 1 in 5,000 administra-
s.—B.M.J. ii./97,160.

## *General Preparations of Chloroform.*

nternally Chloroform is an antispasmodic and
tive. On account of its agreeable taste it is often
ed to nauseous medicines, in the form of Spirit of
oroform, to disguise their taste, and to prevent
omposition.—P.J. 1887.315. Externally it produces
cal anæsthesia and is added to liniments to aid their
orption and to allay pain in neuralgia. Large doses
hloroform may be taken into the stomach, without
sing death. For recovery after drinking an ounce, see
M.J. Dec. 1887, 523 ; a tablespoonful not dangerous.
.M.J. i./86.786; Th. Gaz. 1886.20.

**ua Chloroform**. (*Off.*).—1 in 400 of water.

*ose.*—½ to 2 ounces (15 to 60 Cc.).

alts, like sodium sulphate, are apt to cause deposition
hloroform from aqueous solution.

**loroformum Aconiti**, *v p.*16.

**loroformum Belladonnæ**, *v p.*99.

**Chloroformum Camphoratum, B.P.C.**

Camphor 2, Chloroform 1.

Useful for toothache, applied on cotton wool.

**Chloroformum Mastiches.**

Mastiche 1, Chloroform *q.s.* to 2.

**Linimentum Chloroformi** (*Off.*).

Chloroform 1, Liniment of Camphor 1.

Vaseline might with advantage replace the oil of the camphor liniment for this preparation.

**Oleum Chloroformii, P.G. iv.**

Chloroform 1, Olive Oil 1.

**Liquor Chloromorphiæ,** Chloromorphia Solution. (*Improved formula—miscible*).

| | | Contains in a 10 minim dose :— |
|---|---|---|
| Chloroform ... ... ... | 150 | $1\frac{1}{2}$ minims. |
| Glycerin ... ... ... | 400 | 4 minims. |
| Liquid Extract of Liquorice ... | 100 | 1 minim. |
| Morphine Hydrochloride ... | 10 | $\frac{1}{11}$ grain. |
| Solution of Atropine Sulphate | 20 | $\frac{1}{5}$ minim. |
| Oil of Peppermint ... | 2 | $\frac{1}{50}$ minim. |
| Alcohol (90 per cent.) *q.s.* to | 1000 | |

Dissolve the Morphine Hydrochloride in the Liquid Extract of Liquorice, Glycerin and Atropine Solution previously mixed; in part of the Alcohol dissolve the Chloroform and Oil of Peppermint: mix with the morphine solution, and add Alcohol *q.s.* to 1000.

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.). Is a homogeneous mixture, and useful sedative, more nearly resembling the secret remedy, Chlorodyne, in active constituents, than the official Tinctura Chloroformi et Morphinæ Composita.

**Tinctura Chloroformi et Morphinæ Composita** (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

| | | Contains in a 10 minim dose :— |
|---|---|---|
| Chloroform ... ... ... | 75 | $\frac{3}{4}$ minim. |
| Morphine Hydrochloride ... | 10 | $\frac{1}{11}$ grain. |
| Diluted Hydrocyanic Acid ... | 50 | $\frac{1}{2}$ minim. |
| Tincture of Capsicum ... ... | 25 | $\frac{1}{4}$ minim. |
| Tincture of Indian Hemp ... | 100 | 1 minim. |
| Oil of Peppermint ... ... | 1·5 | $\frac{1}{60}$ minim. |
| Glycerin ... ... ... ... | 250 | $1\frac{1}{4}$ minims. |
| Alcohol (90 per cent.) *q.s.* to ... | 1000 | |

Mix.—Contains about four times the proportion of rphine present in the preparation of B.P. 1885.

Dr. Paul, from his analysis of Chlorodyne, only ained 2 grains pure Morphine from 1 ounce, or one- rd less than is contained in the above. Hydrocyanic d is not now a component.—P.J. 1892,490.

Poisoning by 4 ounces of Chlorodyne, with recovery use of atropine, strychnine, and stimulants.— ii./90,670. Another case L. ii./96,1456; i./98,1686.

**erles of Chloroform** contain about 3 minims (0·18 Cc.). in each. *Dose.*—1 or 2.

**piritus Chloroformi** (*Off.*).—*Syn.* Chloric Ether. 1 in 20 of alcohol (90 per cent.).

*Dose.*—30 to 40 minims (1·8 to 2·4 Cc.), or 5 to minims (0·3 to 1·2 Cc.) repeated.

**inctura Chloroformi Composita, B.P.C.** (B.P. 1885).

Chloroform 2, Rectified Spirit 8, Compound Tincture Cardamoms 10. *Dose.*—5 to 60 minims (0·3 to 5 Cc.).

## CHRYSAROBINUM.

### Chrysarobin (*Off.*).

*Syn.* Commonly but erroneously called CHRYSO- ANIC ACID.

*Dose.*—$\frac{1}{6}$ to $\frac{1}{2}$ grain (0·01 to 0·032 Gm.) or more.

A substance containing a varying proportion of rysophanic acid, obtained from Araroba (*v.p.* 151). r extraction with hot chloroform.

Pure chrysarobin is a tasteless and colourless dull ange yellow powder, but can be obtained by sublima- on in bright shining yellow needles. It is contained in hubarb root (principally as Chrysophanic Acid), Dock ot, and the Yellow Wall Lichen, but commercially it is repared from Araroba by exhausting with hot chloro- rm, filtering and allowing the Chrysarobin to crys- allise out. It is not soluble in weak solution of otash, but by the action of a stronger solution of is alkali in contact with the air it dissolves and converted into potassium chrysophanate, from hich true chrysophanic acid may be separated by e action of a mineral acid.—P.J. 1879,896. Pure hrysarobin is not, like Chrysophanic acid, so aqueous ammonia. Chrysophanic Acid in Rhubarb is probably an oxidation product which further oxidises into emodin and rhein.—P.J.ii./95,325. Clinical experiments have shown that the mother-liquor from which Chrysarobin has crystallised still contains a principle more active than pure Chrysarobin.

Chrysarobin is freely soluble in hot benzol, hot chloroform, hot oil of turpentine and several volatile oils; in hot glacial acetic acid and hot glycerin about **1 in 60**; olive oil, melted lard and vaseline dissolve it largely if heated, but on cooling any of these solutions much of it crystallises out. It is soluble in water only slightly; almost entirely soluble in hot alcohol (90 per cent.); slightly soluble in ether, and partially soluble in petroleum spirit. It may be made into pills with **glycerin of tragacanth.**

Used externally, chrysarobin is a powerful stimulant and parasiticide in many skin affections. It has also been administered internally for psoriasis, but even in half-grain doses it purges the patients so much, that as a rule its use cannot be persevered in to produce a cure. 8 to 20 grains is an emetic purge.—B.M.J.i., 77.608.

**Unguentum Chrysarobini** (*Off.*).

Chrysarobin 1, Benzoated Lard 24. Triturate, mix, heat to dissolve as much as possible, and stir till cold. Unguentum Chrysarobini, U.S., is 1 in 10 of benzoated lard.

Chrysarobin ointment has been used as a successful remedy in psoriasis, lupus, ringworm of the scalp, pityriasis, tinea circinata, &c. For some forms of eczema and other skin affections a milder ointment should be used—5 to 10 grains to an ounce. It is important that the drug should be dissolved in the fat. It stains the skin and hair, and a strong ointment after three days' continued use sometimes produces feverishness and irritation, accompanied by discoloration of the skin beyond the parts to which it has been applied. The stains can be removed from the skin, linen, &c., with benzol, or a weak solution of potash or chlorinated lime.

**Unguentum Chrysarobini Compositum** (Unna).

Chrysarobin 5, Salicylic Acid 2, Ichthyol 5, Vaseline 88. —M.C. Sept.1890,522; B.M.J.i.'90, 1090; i. 93,785.

In Vienna, for psoriasis, M. Auspitz uses each day, or every two or three days, according to extent of surface cted, with soap baths intervening, a pigment com- ed of chloroform (by weight) 8, chrysarobin 1, solve and add gutta percha 1; dissolve again.—Pr. xiii.52; Pr. xxxiv.135; B.M.J. i./84,1006.—M. snier first paints on the part a 10 to 15 per cent. ution of chrysarobin in chloroform, and covers with the gutta-percha varnish known as

**raumaticin**, composed of Gutta Percha (purified) 1, Chloroform (by weight) 9.

As this is about the same strength as LIQUOR GUTTA RCHA, B.P., 1885, 1 to 8 (fluid), the writer prepares . Auspitz's application thus :—

**igmentum Chrysarobini.**—*Adopted by G. H.* Chrysarobin 1; Solution of Gutta Percha, B.P. 1885, 9.

A cleanly application,—prevents soiling of bed linen d underclothing. The following **Paint** is recom- ended for psoriasis: Chrysarobin 1, Pyrogallol 1, her and Alcohol, of each 10; Collodion 120. Apply ter bathing every third day.

Chrysarobin may also be applied by means of mphoid, *v.p.*124.

**Plaster Mulls** are spread containing 2 and 10 ammes of **Chrysarobin** respectively, in $\frac{1}{5}$ square etre, *v.p.*528.

**Chrysarobin, Oxidised**, a brownish-black powder, ed by Unna, is less irritating, and useful in facial zema and acna rosacea, as a 5 to 10 per cent. ointment ith vaseline and lanoline.

**raroba.** *Syn.* **Goa Powder** (*Off.*). **Crude Chrysarobin.**

A concretion obtained from the stem and branches a leguminous tree, *Andira Araroba*, dried and owdered.

Crude Araroba is imported from Brazil. About 80 er cent. of its weight consists of chrysarobin, or rysophanic acid so-called. It is at first light yellow, ut turns brown and purplish by exposure, and oxidises to *true* chrysophanic acid. The Indian mode of using he drug was to cut a lime fruit, dip it in the powder nd dab it on the affected skin. The Brazilians mix it ith vinegar, and apply it, or use

**Unguentum Araroba.**

Goa Powder 1, Glacial Acetic Acid 1; rub together and add Lard 14. This is an effective application.—M.T.G. i./75,249; P.J. 1875,723.

For the further chemical history and botanical source, *vide* P.J. 1864,345; 1875,716,721,801; 1877,709; 1879, 775,986; 1880,42,814; M.T.G. ii./74,470; M.T.G. i./75,249.

**Eurobin,** Chrysarobin-Acetate. A brownish powder recommended as a substitute for chrysarobin. Solutions of 2 to 3 per cent. are said to be as effective as the normal chrysarobin applications. Eurobin is free from toxic effects, is non-irritant, and does not stain.—P.J. ii./98,685; i. 99,369; ii. 99,176; i. 00,616; B.& C. D. ii. 98,61.

**Lenirobin.** Chrysarobin-triacetate has also been prepared.—C. & D. ii./98,123; P.J. ii./99,176.

Treatment of psoriasis by Chrysarobin and its preparations.—B.M.J. ii./76,819; i./77,510, 546; i./78,663, 866; L. ii./81,74; i./82,817; ii./82,702, 792, 935; ii./85,577; Pr. xx. 415; xxi. 444.

Occasions sometimes erythematous irritation of the skin with violet or purplish discolorations, and at other times minute papules.—B.M.J. i./79,223.

Ointment useful in acne rosacea.—M.T.G. i./77,665

Chrysarobin is a powerful local stimulant; not, however, tending towards vesication or ulceration; curative properties best shown in psoriasis; is an undoubted parasiticide, especially in ringworm of the body and tinea versicolor.—Pr. xxii.376; M.C. Mar. 1892,427.

Nine cases of tinea circinata cured in a week by Goa powder ointment, not so successful in tinea tonsurans.—L. i./77,124; B.M.J. i./77,199.

In ringworm, 7 grains to 1 ounce of chloroform applied thrice daily sinks in deeply.—B.M.J. ii./84,858.

Chrysarobin successful as a local application for hæmorrhoids.—L. ii./89,811; ii. 92,938.

True chrysophanic acid from rhubarb is not an efficient substitute for chrysarobin in treatment of psoriasis.—Brit. Jour. Dermat. 1896,281; B.M.J.E. ii./96,96.

# CIMICIFUGÆ RHIZOMA.

**Cimicifuga** (*Off.*).—*Syn.* Actæa.

The rhizome and rootlets of *Cimicifuga racemosa* *tæa racemosa*, Linn.), black snakeroot or black osh. Indigenous to the United States and Canada.

**micifugin.**

The powdered resinoid substance of a yellowish brown our obtained from black snakeroot.

*Dose.*—1 to 6 grains (0·065 to 0·4 Gm.) in pill, as ervine tonic and antispasmodic, given for rheuma- n, chorea, amenorrhœa, and to excite contraction of uterus.

**xtractum Cimicifugæ Liquidum** (*Off.*).

1 = 1 of Cimicifuga exhausted with 90% alcohol.

*Dose.*—5 to 30 minims (0·3 to 1·8 Cc.).

**nctura Cimicifugæ** (*Off.*).

*Syn.* Tinctura Actææ. 1 in 10 of 60% alcohol.

*Dose.*—30 to 60 minims (1·8 to 3·5 Cc.), or 5 minims ry hour.

Very useful in chronic rheumatism where one part of a ndon, muscle, or articulation is exquisitely painful, or ere the disease is traceable to previous uterine affec- n; also in lumbago, sciatica, pleurodynia, and head- ie from fatigue.—R.; Th. Gaz. Nov. 1887,732.

In chronic rheumatism and obscure nerve-pains, also lumbago very valuable in dose of 30 minims twice or ree times a day.—L. ii./62,238.

Cimicifuga successful in severe dysmenorrhœa of long nding, dyspepsia with neuralgic pains, and hysterical uralgia.—L. i./89,477.

A certain anodyne in dysmenorrhœa, and increases e flow in scanty menstruation, also beneficial in norrhagia and metrorrhagia.—Pr. xlviii. 265.

## CINCHONÆ CORTEX.

### Cinchona Bark.

The principal dried barks used for the production the salts of the Cinchona alkaloids are:—Yellow nchona bark, obtained from *Cinchona Calisaya;* pale nchona bark (crown or Loxa bark), from *Cinchona offici- lis;* red Cinchona bark, from *Cinchona succirubra;* e bark of *Cinchona lancifolia*, Mutis, and other species of Cinchona; that of certain species of Remijia may also be used. The only kind official for making galenical preparations is the cultivated Red Cinchona, *v. p.* 155.

The sources of the principal "barks" of commerce may be tabulated as follows:—

| | | |
|---|---|---|
| I. | C. officinalis, *var.* α, Condaminea<br>,, ,, β, Bonplandiana<br>,, ,, γ, crispa | yielding crown bark. |
| II. | C. succirubra (Pavon), | yielding red bark. |
| III. | C. nitida<br>C. micrantha<br>C. Peruviana | ,, grey bark. |
| IV. | C. Calisaya | ,, yellow bark. |
| V. | C. lancifolia<br>C. cordifolia | ,, Columbian bark. |
| VI. | C. Pitayensis | ,, Pitayo bark. |
| VII. | Remijia Purdieana<br>,, pedunculata | ,, Cuprea bark. |

The Quinine barks, as they are called, now imported from South America, are chiefly the Calisaya in quills; those known as Cuprea barks, the produce of species of Remijia, are rarely now imported. A much larger quantity of cultivated bark, the produce of *C. succirubra*, *C. officinalis*, and hybrids, arrives from Madras and other parts of India; most of the rich Java bark, produced by *C. Calisaya*, *var. Ledgeriana*, now goes direct to Amsterdam or Hamburg. The old natural "flat" Calisaya bark is not now met with, but a kind of cultivated yellow bark, rolled into flat pieces, is imported from Bolivia to replace it.

The alkaloid Cinchonidine, although often found associated with quinine in Cinchona, is generally absent from Cuprea barks, and in some the alkaloid Cupreine, nearly allied to quinine, has been found; its salt, **Cupreine Sulphate,** is in light feathery crystals. An alkaloid named **Cinchonamine** is also contained in some samples. **Hydroquinine,** another cinchona alkaloid, discovered by Hesse, is associated with and nearly allied to quinine; it possesses similar chemical properties to the latter, but has two additional atoms of hydrogen in its molecule.

The cultivation of the Cinchonas is carried on in India, in the Nilgiri Hills in the south, and near Darng in the north-east, also in Ceylon, Java (whence largest supplies), and Jamaica.

'he species *C. succirubra* has proved to be the hardiest most easily propagated, and, although on analysis yield of cinchonidine and quinidine generally pre- derates over that of quinine, yet the total yield— n 5 to 10 per cent.—of alkaloids from the bark of Cinchona is very large; latterly the proportion of iine in it has increased.

**idum Quinicum**, Kinic Acid, *v.p.*112.

**ıchonæ Rubræ Cortex, Red Cinchona Bark** (*Off.*). *Dose.*—5 to 60 grains (0·32 to 4 Gm.).

'he dried bark of the stem and branches of cultivated its of *Cinchona succirubra*. Tested by official pro- :, it should yield between five and six per cent. of total lloids, of which not less than one-half should consist quinine and cinchonidine.

### *Preparations of Red Bark.*

**ecoctum Cinchonæ.** B.P. 1885.—1 produced 16. Half this quantity of bark yields a preparation of equal alkaloidal strength. *Dose.*—1 to 2 ounces (30 to 60 Cc.).

**ixir Cinchonæ**, *v.p.*222.

**tractum Chinæ. P.Aus.Add.** *Dose.*—1 to 4 grains (0·065 to 0·26 Gm.). cold water percolate, inspissated.

**tractum Cinchonæ Liquidum** (*Off.*). *Dose.*—5 to 15 minims (0·3 to 0·9 Cc.). Red Cinchona Bark in No. 60 powder 20, is perco- d with a mixture of distilled water 100, hydrochloric l 0·6, and glycerin 2·5; the percolation is continued h distilled water until the bark is exhausted. The colate is concentrated by evaporation, and adjusted strength so that, after the addition of 12·5 per cent. alcohol (90 per cent.), it shall contain 5 per cent. of al alkaloids. It thus makes an acid preparation of k; 1 equals about 1 of bark. In the 1867 B.P. **tractum Cinchonæ Flavæ Liquidum**, yellow k was percolated with cold distilled water *only*, the colate concentrated to Sp. Gr. 1·2, and one-third its lume of rectified spirit added; it then had Sp. Gr. 1·1; s menstruum failed to exhaust the bark—even approxi- tely.

Liquid extract of red bark has been much lauded in America for giving drunkards a distaste for alcohol.—B.M.J. i./80,271,681.

**Infusum Cinchonæ Acidum** (*Off.*).

*Dose.*—½ to 1 ounce (15 to 30 Cc.).

Red bark in No. 40 powder 1, in boiling distilled water 20, with aromatic sulphuric acid ¼; infuse one hour and strain.

Acetic acid 10 per cent. recommended as a liquid menstruum for cinchona bark.—P.J. ii./99,45.

**Mistura Ferri Aromatica, B.P**, 1885. *Syn.* **Heberden's Ink.**

*Dose.*—1 to 2 ounces (30 to 60 Cc.).

Red Cinchona Bark 4, Calumba Root 2, Cloves 1, Iron Wine 2, Peppermint Water 48. Macerate 3 days, filter and add Peppermint Water *q.s.* to 50. Then add Compound Tincture of Cardamoms 12, Tincture of Orange Peel (dried) 2.

**Tinctura Cinchonæ** (*Off.*).

About 1 in 5 of 70% alcohol; standardised to contain about 1 per cent. of alkaloids.

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

**Tinctura Cinchonæ Composita** (*Off.*).

*Syn.* HUXHAM'S TINCTURE OF BARK.

About 1 in 10 of 70% alcohol.

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

**Vin de Quinquina au Malaga** (Codex).

May be made with red bark 3 parts in 100 of Malaga wine.

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.) for children.

**Vinum Chinæ, P.G. iv.** *Dose.*—1 to 4 drachms

Red Bark 1 in 25 of Sherry detannated by Gelatin and flavoured with Sugar and Tincture of Orange.

**Vinum Chinæ ferratum. P. Aus. Add.**

Dissolve Gelatin 1 in Water 20, add to Malaga Wine 1000; then add Iron and Quinine Citrate 5 dissolved in Water 20. Set aside 8 days, filter and preserve in wine bottles kept from the light.

**Cinchonina and Sulphate**, *v. pp.* 157, 158.

**Cinchonidinæ Sulphas**, *v. p.* 157.

**Quinetum and Sulphate**, *v. p.* 110.

**Quinidinæ Sulphas** *v. p.* 111.

**nina and Salts**, *v.p.* 111.

s to the relative value of the Cinchona alkaloids, two missions, one in Bombay, the other in Madras, have rted that Quinine keeps its long-maintained and owledged supremacy. Next in value is Quinidine; follow Cinchonidine and Cinchonine; of the last the former is preferable, but dearer, the latter being cous and liable to cause derangement to the stomach. proper relative doses are of Quinine 3 grains, nidine 5 grains, and Cinchonidine and Cinchonine 7 ns each. P.J. 1870,325; 1872,725; 1873,396.

## CINCHONIDINÆ SULPHAS.

### Cinchonidine Sulphate.

*yn.* Formerly termed QUINIDINE SULPHATE, or NIDINSULFAT, by German chemists.

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.).

n silky white needles, generally smaller than quinine hate, obtained from some cinchona barks. Al-ugh isomeric with cinchonine, its solution is lævogy-, like that of quinine, but it does not produce the rald green colour with chlorine water and ammonia. sulphate is soluble 1 in 50 of alcohol, 1 in 100 of er, rendered more soluble in water by addition of 1—a minim or more of diluted sulphuric acid to a n—may be dispensed thus, or 5 parts with 1 of erin of tragacanth in pills. Taste bitter.

n intermittent fevers, malaria, and neuralgia, has a inct value of its own, acting as rapidly and efficaciously though not a substitute for, quinine; patients are re capable of resisting fresh malarial poisoning than er the latter.—B.M.J.E., ii./90,16; Th. Gaz., 1890, 3; Pr. xxiv.375; L. ii./81,1065; Pr. xvii.53.

**Cinchonidine Salicylate** is useful as a tonic l antiperiodic in neuralgia, rheumatism, sciatica, &c., grains every 2 hours in pills or cachets.—B.M.J. 1,428.

## CINCHONINA.

### Cinchonine.

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.).

An amorphous white powder, as met with in com-rce, obtained from Cinchona barks, isomeric with cinchonidine, but solutions of its salts are dextrogyrate. Being insoluble in cold water, and requiring 2,500 of boiling water to dissolve it, it is almost tasteless, and is recommended in the following form as a tasteless febrifuge for children:—

**Pulvis Cinchoninæ Compositus.**

Cinchonine 12, Sodium Bicarbonate 1, Milk Sugar 60.
*Dose.*—3 to 12 grains (0·2 to 0·8 Gm.).

**Cinchoninæ Hydrochloridum.**

*Dose.*—1½ to 10 grains (0·1 to 0·65 Gm.), or more.

In white acicular crystals, very like quinine sulphate, very soluble in water and alcohol.

**Cinchoninæ Sulphas.**

*Dose.*—1½ to 10 grains (0·1 to 0·65 Gm.), or more.

In hard, colourless, short rhombic prisms, with a vitreous lustre. Soluble 1 in 54 of cold water, 1 in 12 absolute alcohol. Cinchonine salts are much the cheapest of the alkaloidal salts of Cinchona. Their nauseous, bitter taste is objectionable. They are given in doses one-third larger than quinine and for the same purposes; as prophylactics some have thought them superior to quinine. The hydrochloride is the salt most convenient for use. May be dispensed in aqueous solution, or in pills, 5 parts with one of glycerin of tragacanth.

**Cinchoninæ Iodosulphas.** Cinchonine Iodosulphate.—*Syn.* ANTISEPTOL.

This odourless brown powder has been recommended as a substitute for iodoform. It contains 50 per cent. of iodine, and is soluble in alcohol and chloroform, insoluble in water.—P.J. 1890,161; Th. Gaz. 1890,632.

**Cinchonine Iodomercurate**, a yellow amorphous powder produced by the action of Nessler's Reagent (*v.p.*355) on a solution of a salt of Cinchonine, has also been suggested for external use as an antiseptic.

## COAL TAR DERIVATIVES.

Of the aromatic series of derivatives from coal tar, now so freely used as antipyretics and analgesics, it is said that they all produce changes in the blood, diminishing its respiratory capacity and destroying red corpuscles. —L. i./93,377.

**ations of Coal Tar.**

alcoholic preparation known as *Liquor Carbonis rgens* owes its properties in part to Phenol.

a lotion, from 1 drachm to 1 ounce to a pint of led water forms a yellowish milky emulsion; or, as ntment, 1 part to from 7 to 15 of basis. Useful in go and chronic scaly skin diseases.

**eum Picis Carbonis.** St. John's Hosp.

lution of Coal Tar 8 ounces, water 95° F. 30 gallons.

**uor Picis Carbonis, Solution of Coal Tar** (*Off.*)

epared Coal Tar (*Pix Carbonis Præparata* (*Off.*)— Tar (prepared by heating in a shallow vessel, at F. for one hour, stirring frequently), 1, Tincture uillaia (1 in 10 of 90% alcohol) 5. Digest at F. for two days, cool, and decant or filter.

**uor Picis Carbonis et Ligni.**

issolve Wood Tar 1 in 20 of above liquor.

**uor Picis Ligni** may be prepared by dissolving Wood Tar 1 in 20 of above Tincture of Quillaia.

he tincture of quillaia enables these solutions to emulsions with water. One part to 7—20 is use- or various skin affections as a lotion.

**olin,** a specialty sold as *Liquor Antisepticus*, is a dark alkaline liquid prepared from coal tar, forming a white emulsion with water, and is recommended as a deodorising antiseptic. For lotions, 1 to 100 to 500 of water.—L. i./88,540; B.M.J. ii./88,1061. *Dose.*—1 to 5 grains **0·065 to 0·32 Gm.**).

s ointment for erysipelas, eczema, and scabies.— xlvi.44; B.M.J.E. ii./90,84; Ed. M.J. 1891,962.

n unreliable disinfectant, weak antiseptic, and more onous than supposed.—B.M.J. i./89,260; Th. Gaz. . 1888,768. Toxic effects.—L. ii./89,811; Th. Gaz. 9,550; 1890,631; Y.B. 1890,302.

oisoning by 9 ounces swallowed; recovery.—B.M.J. o,92.

reolin in eczema, psoriasis, and other skin affections, uable.—Therap. 1900,62.

**il.** A proprietary name.

white emulsion of oxidized hydrocarbons, obtained n coal oil, containing 40 per cent. of Izal oil; used as a non-poisonous disinfectant and antiseptic. It contains little phenol, or its homologues from coal tar. A purer form for surgical use may be used 1 in 200 of water. It is destructive to *Bacillus coli* and other organisms.—L. ii. 93,18,36,121; B.M.J. ii. 93,796; B.M.J.E. i./94,104; P.J. i./96,301.

Toxic effects when applied to the skin of cats and dogs. —B.M.J.E. ii./00,83.

**Liquor Cresoli Saponatus, P.G. iv.**

Equal parts of crude cresol (cresylic acid, *v.p.*9), and potash soap.

**Aqua Cresolica. P.G. iv.** One part of above to 9 of distilled or common water.

**Lysol.** A German specialty.

A dark-coloured alkaline liquid, obtained by the saponification of cresols, and containing the higher homologues of phenol. It is soluble in all proportions of water, forming a gelatinous mixture with small quantities, and is said to be a stronger antimycotic and less poisonous than phenol. Incompatible with acids. A useful disinfectant.—B.M.J.E. i./92,99.

In lupus, applied daily or every other day, useful, but painful.—B.M.J. ii./91,598. One per cent. solution recommended in aural practice and midwifery.—B.M.J.E. i./91,173; Th. Gaz. 1892,64.

There have been four fatal cases of Lysol poisoning in children, none in adults.—B.M.J.E. ii./08,63.

Death after rectal injection of an ounce and a half.—B.M.J. ii./00,1498.

**Acetanilidum, Acetanilide.** (*Off.*).—*Syn.* PHENYL-ACETAMIDE (ANTIFEBRIN).

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.) or more, in cachets or suspended in water by compound tragacanth powder.

Prepared by the action of glacial acetic acid on aniline. In small white odourless glittering crystals, which produce a burning sensation on the tongue, and melt at 236·5° F. It is soluble about 1 in 200 of water, but freely soluble in alcohol, and is neutral in its reaction. Is soluble 1 in 20 of brandy with difficulty. It is used as a febrifuge and antipyretic, hypnotic sedative, anti-epileptic, anti-arthritic, and nervine tonic, and given with good results in malignant small-pox.—Y.B. 1888, 111, 287; L. ii./86,462,645; L. i./87,41; L. ii./87, 776. Therapeutic study.—B.M.J. i./87,339.

**ablets**, 5 grains. *Dose.*—1 or more.

hecks the chills and fever of phthisis, quiets the ner- s system, and improves the well-being—Pr. xxxviii.447.

elieves the darting pains of locomotor ataxy.— /87,41. Successful in sciatica.—Pr. xlii.131; B.M.J. ),374. Useful in enteric fever.—Pr. xliv.14.

dvantages over antipyrine; smaller dose, steadier on, and less danger from collapse.—B.M.J. ii./88,979.

ecommended for diphtheria, and scarlatinal and other ns of sore throat.—B.M.J. ii./89,895; L. ii./89,660.

oxic effects of two 4-grain doses quickly repeated in irl of 13; faintness, palpitation, and cyanosis.— /89,1157. Other cases.—B.M.J. ii./89,601; i./90, ; L. i./90,575,816,1135; Pr. li.248.

n small repeated doses regulated temperature in noid and phthisis. Caution against large doses.— I.J.E. ii./90,59; B.M.J. i./91,172, 684.

good and safe antipyretic, best given with brandy, enteric fever, pneumonia, and tuberculosis.—B.M.J. 1,284.

Used as a dusting powder over raw surfaces, acts as antiseptic and promotes healing.—B.M.J. i./94,69; ii./93,1142.

eath following use of headache powders, found to con- 4 to 10 grains acetanilide in each.—P.J. ii./96,14.

verdose causes death.—P.J. i./00,161.

eath from two acetanilide headache powders.— M.J. i./98,1539. Risks of such headache powders, ussion.—B.M.J. ii./98,434. Toxic symptoms from headache powder.—B.M.J. ii./98,987.

**ilvis Acetanilidi Compositus, B.P.C.**

*Dose.*—3 to 5 grains.

Acetanilide 7, Caffeine 1, Sodium Bicarbonate 2. eir action resembles 'Daisy' powders.

**mmonol.** *Dose.*—5 to 20(?) grains (0·32 to 1·3 Gm.).

A white powder, imperfectly soluble in water, contains tanilide and ammonium carbonate. Also supplied **Tablets** of 5 grains. Ammonol is also prepared the form of **Salicylate, Bromide,** and **Lithiate.**

**ntinervin.** A specialty, reported to be a mixture of salicylic acid, potassium bromide, and acetanilide. —P.J. 1891,1169.

Antitoxine. *Dose.*—5 to 15 grains (0·32 to 1 Gm.).

Also a specialty with an acetanilide base.

**Monobromacetanilide.**—*Syn.* MONOBROMPHENYLACETAMIDE; ANTISEPSIN. A bromine substitution compound of acetanilide, in white acicular tasteless crystals. Suggested for facial neuralgia, neuritis, and rheumatism, in dose of 3 to 15 grains (0·2 to 1 Gm.).—B.M.J.ii./88,183.

Two cases of cyanosis from its use.—B.M.J. i./90,357.

In doses of $\frac{5}{6}$ grain reduced temperature of phthisis, slowing pulse, but not respiration. Used also as an antiseptic, and in suppositories ($\frac{1}{3}$ grain), for hæmorrhoids.—L. i./90,1266; M.P.C. i./90, 330; Th. Gaz. 1890,416.

**Phenalgin.** Said to be 'Phospho-ammonio-phenyl-acetamide.' *Dose.*—5 to 20 grains (0·3 to 1·3 Gm.).

A mixture with antefebrin as the active base.

A white powder insoluble in water, but soluble in most organic solvents; recommended as a substitute for opium, and as an antipyretic has antimalarial and hypnotic properties.—P.J.i. 99,449.

**Tablets**, $2\frac{1}{2}$ grains each.

**Acetophenone.**—*Syn.* HYPNONE; PHENYL-METHYL ACETONE.

*Dose.*—$1\frac{1}{2}$ to 5 minims (0·1 to 0·3 Cc.) suspended in almond emulsion, or with mucilage or syrup and peppermint water, or in **Capsules of Hypnone** with oil, which contain $\frac{3}{4}$ minim of Hypnone in each. Hypnone is a colourless liquid at ordinary temperatures, but crystallises below 50° F. in white needles. Has a strong odour of almond and orange blended. Is insoluble in water, but soluble in alcohol, ether, and oils. As a hypnotic, is said to be useful in nervous affections, and simple insomnia without pain: its administration requires care, as its action is somewhat uncertain.—L. i./86,466: B.M.J. i./86,84,131,947; ii./86,19; P.J. 1885,445,582; 1886,641; L. ii./86,398.

Has been used with some success internally to promote chloroform anæsthesia.—B.

Is of no value in insomnia.—L. i./86,369; L. i./87,391.

**Acidum Carbolicum**, *v.p.*7.

**Analgene.** ORTHO-ETHOXY-ANA-MONOBENZOYLAMIDOQUINOLINE.—*Syn.* BENZANALGENE.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

white crystalline powder insoluble in water;
ed from oxyquinoline; has been used with success
ute rheumatism, neuralgia, hemicrania, and bron-
asthma.—B.M.J.E. i./93,63; L. i. 94,46.
as a destructive action on red blood corpuscles;
ishes the fever of rheumatism.—B.M.J.E. ii./
. Yet unpleasant effects rarely occur.—B.M.J.
,1055. Colours the urine red, producing uro-
ria.

**line.**—*Syn.* MONO-PHENYLAMINE, ANILIN OIL.
colourless, mobile, oily liquid, with a faint vinous
' and aromatic burning taste, soluble in alcohol,
, and oils, slightly in water. It darkens in
r by keeping. **Aniline colours**, *v.p.*547.
used in the **Aniline Treatment of Phthisis**,
ı consists of inhalation of 1 part aniline to 7
ıcalyptus oil (oil of anise, peppermint, or gaul-
ı may be used as the diluent) from a specially-
ned inhaler. Aniline is supposed to destroy the
cle bacilli in the blood.—B.M.J. i./87,579,789,842;
88,569. No good results in any case, but disease
ne worse, besides showing toxic action of aniline
e heart.—L. ii. 88,388. Poisonous risks.—L. i. 01.
.

sed as a solvent of cocaine and eucaine for local
thesia.—L. i./01,698.

**line Sulphate.**

*se.*—$\frac{1}{2}$ to 3 grains (0·032 to 0·2 Gm.).
as been used for emphysema and asthma; must be
cautiously, as it may cause cyanosis.

**lum Sulphanilicum.**

*se.*—5 to 10 grains (0·3 to 0·6 Gm.).
small white crystals, slightly soluble in water. Is
in Ehrlich's Diazo Test, *v.p.*537.
as been employed to relieve iodism, catarrh, laryn-
and otitis. Is analgesic, best given as

**ii Sulphanilas.**

*se.*—5 to 15 grains (0·32 to 1 Gm.).
white shining scales, easily soluble in water.
seful in acute catarrh.—L. i./95,49.

**ygdophenin.**

*se.*—8 to 15 grains (0·52 to 1 Gm.) in cachet.
compound of para-amidophenol and amygdalic
analogous to phenacetin. Is in small white

crystalline plates, slightly soluble in water and alcohol. Useful in rheumatic fever and neuralgia, but of little value as an antipyretic.—B.M.J.E. ii./95,99; P.J. i./96, 162.

**Anthrarobin.** A light brownish yellow powder, darkening with age, obtained by reduction from alizarin. It is a powerful deoxidising agent, sparingly soluble in chloroform and ether, but readily so in alcohol or weak alkaline solutions.

It has been used with success in psoriasis, in the form of an ointment, containing from 5 to 10 per cent.—Pr. xlii.56; P.J. 1888,346. Caused smarting, and slow in action.—Y.B. 1890,300.

Is best applied as a tincture, after rubbing the parts with soft soap or soap liniment.—Th.Gaz. Jan. 1889,30.

**Antithermin.**—*Syn.* **Phenyl-hydrazin-levulinic Acid.** *Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

It is allied to antipyrine, phenyl-hydrazin being an intermediate product in the formation of that body, as well as of this. Is apt to cause stomach pains.

**Antipyrine**, *v.p.*172.

**Apolysin.** MONOPHENETIDIN CITRATE.

*Dose.*—8 to 30 grains (0·52 to 2 Gm.).

A whitish granular powder, soluble about 1 in 80 of cold water, freely in hot water, alcohol, and glycerin. It has been recommended as an analgesic and antipyretic, useful in neuralgia, migraine, influenza, sciatica, scarlet fever, and lumbago. May be combined with a bromide or caffeine salts.—B.M.J.E. ii./95,87,95; ii./96,19.

Of especial use in migraine.—B.M.J. ii./98,1056.

**Benzanilide.**—*Syn.* **Phenyl-benzamide.**

*Dose.*—3 to 12 grains (0·2 to 0·8 Gm.).

In small white shining scales, odourless and tasteless; insoluble in water, soluble 1 in 60 of alcohol. It is obtained by the action of benzoyl chloride on aniline, being chemically and therapeutically similar to acetanilide. Has been found specially useful for children.—P.J. 1888,425 (ex Apot. Zeit.); Y.B. 1890,301.

A simple antipyretic with little other influence on the course of a disease.—B.M.J.E. ii./92,59.

**Benzol.** (*Off.*).—*Syn.* **Benzene.**

*Dose.*—5 to 10 minims (0·3 to 0·6 Cc.), in capsule or oily solution.

). Gr. 0·880 to 0·888. For internal use should be :allizable and purified by sulphuric acid and redistil- n.. Useful for winter cough; also for whooping- h, and in influenza; a reliable pulmonary antiseptic, be given as

**tæ Benzol.** *Dose.*—30 drops on sugar.

enzol 4, Oil of Peppermint 1, Olive Oil 20. Or emul- l, as Benzol 80 minims, Rectified Spirit 2 drachms, it of Chloroform 2½ drachms, Mucilage of Tragacanth unce, Water to 8 ounces. –L. i./92,234; B.M.J. :,171; Pr. xlviii.215; P.J. 1892,611.

ix cases of influenza treated by Benzol given in ilage, results good. –B.M.J. ii./93,1425.

enzol quickly destroys pediculi capitis or pubis, ied freely; one application generally sufficient.— [.J.E. i., 92,3. Also parasite of itch.—B.M.J E. 3,20.

or seborrhœa, brushed on the skin.—P.J. i. 01,132.

**oluol**, **Methyl-Benzene**, and **Xylol**, **Dimethyl- izene** have chemical and physical properties allied Benzol.

**tol**, *v.p.*341.

**inolinum, Chinoline.**

*Dose.*—3 to 10 minims (**0·18 to 0·6 Cc.**).

A transparent, colourless, strongly-refracting, mobile, liquid, with a peculiar odour, soluble in alcohol, but luble in water. May be obtained as a derivative of honine and quinine, but is now prepared by lation of nitro-benzene and aniline.—P.J. 1882,245.

**inolini Tartras.**

*Dose.*—5 to 15 grains (**0·32 to 1 Gm.**) in chloroform ter, with syrup of orange, or in cachet.

This salt is most recommended for use. It is, when e, in odourless, glistening, white acicular crystals, seous in taste, and soluble about 1 in 40 of water.

**inoline Salicylate** is less soluble than the above.

Chinoline tartrate is a powerful germicide and antiseptic. one per cent. solution completely destroys the coagu- ility of blood, and weaker solutions render sterile, pagating fluids. Therapeutically, it is a powerful ipyretic in enteric and intermittent fevers, useful in iodic neuralgia, and as a local antiseptic.—B.M.J.

ii./81,408; P.J. 1881,279,317,532; P.J. 1882,624,661; L. i./82,324; L. i./85,862.

Used in diphtheria, as a pigment.—Pr. xxix.447.

**Chinosol.**

The potassium salt of a compound of oxychinoline and sulphuric acid, in yellow, minutely crystalline powder, readily soluble in water; not affected by albumen, but precipitated by alkalis. Used as a surgical dressing, the alkaline secretions of wounds appear to set free oxychinoline, which acts as an oxidiser and disinfectant.—L. i./96,557; B.M.J. i./96,285; P.J. i./96,82,484; L. ii./97,25.

**Tablets** containing 15 grains are prepared. One dissolved in a pint of water is said to be equal to Phenol Solution, 1 in 40, as an antiseptic.

Summary of its antiseptic properties and toxic effects upon animals.—L. i./98,1206, *ex Jour. Path. and Ther.*

A crude form is prepared for veterinary use.

Phthisis—15 grains daily given internally.—L. ii./97, 1432. Other cases relieved.—L. ii./99,90,181,238.

A satisfactory moist antiseptic dressing for a scald.—L. i./98,762.

**Exalgin.**—*Syn.* METHYLACETANILIDE.

*Dose.*—½ to 1 or 2 grains (0·032 to 0·13 Gm.). In colourless acicular or tabular crystals, with a slight saline taste. Soluble 1 in 60 of water, freely so in alcohol.

**Mistura Exalgin.**—*Dose* 2 to 4 drachms (7 to 15 Cc.).

Exalgin 1, Tincture of Orange 4, Syrup of Orange-Flower 12, Water to 96.

**Pilula Exalgin.**—1 grain (0·065 Gm.) in each.

**Tabellæ Exalgin.**—½ grain (0·032 Gm.) each, with chocolate.

It possesses chiefly analgesic properties, is useful in neuralgia of all forms, causing no irritation or rash. Also possesses antipyretic and antiseptic properties. In toxic doses causes impulsion, trembling, and paralysis of respiratory organs. Is eliminated by the urine, the quantity of which, and of sugar when present, is reduced. P.J. 1889,781,861; Y.B. 1890,303. 88 cases as an analgesic, 67 successful.—B.M.J. i./90, 344; P.J. 1890,710. Incompatible (chemically) with salicylic acid.—M.C. Nov. 92,106.

oxic effect, with cyanosis. — B.M.J. i./90,288.
er cases.—L. ii. 92,256; i./93,92.
Ias been used successfully in locomotor ataxy,
raine, neuralgia, chorea, sciatica, and herpes.—
I.J. i./90,1130; ii./90,85,151; M.C. Mar. 1891,
; L. i./92,547; Pr. xlix.460; Th. Gaz. 1892,624.
s an antipyretic, but only in unsafe doses.—B.M.J.E.
90,15; B.M.J. i./91,63.
marked anodyne, with but slight influence on high
peratures.—L. ii./90,845; B.M.J.E. ii. 92,28.
n 4-grain doses, of marked benefit in nervous head-
e, facial and intercostal neuralgia, and lumbago; also
Graves' disease.—L. i./92,1173,1175.
For hypodermic injection; Exalgin 10, Sodium
icylate 11, Water 100, useful.—P.J. 1894,814.
valuable analgesic for neuralgic pains, with but
ght and rare unpleasant effects. Reduced number of
leptic fits in one case.—L. i./93,785; ii./93,1304.
Eight grains cause fainting and sense of dying, but
id recovery.—B.M.J. i./98,1518.

**uorescein.—Resorcin-phthalein Anhydride.**
In yellowish red crystalline powder, sparingly soluble
water, more so in presence of an alkali; showing a
st intense green fluorescence.
Alcoholic solution, a useful indicator in acidimetry,
ecially for ammonia.—P.J. i./01,424.

**Liquor-Fluoresceinæ, R.O.H.** Fluorescein 2 and
lium Bicarbonate 3 in 100. Useful to diagnose corneal
ons. The normal cornea is not stained, but ulcers
l parts denuded of epithelium take a green colour,
ich persists for 2 or 3 hours. Loss of substance in
junctiva is denoted by a yellow coloration.—
i./91,447.

**Sodium-Fluorescein.**—*Syn.* URANIN. A brownish-
low powder, soluble in water, with green fluorescence.
blets for the diagnosis of corneal ulcers.—B.M.J.
98,489.

**rmanilide.**—PHENYL-FORMAMIDE.
*Dose.* 1 to 4 grains (0·065 to 0·26 Gm.).
In colourless prismatic crystals, soluble in water,
rit, and glycerin; decomposed by acids. Is anal-
ic and antipyretic in action, and has been recom-
nded in neuralgia, malaria, and rheumatism; fall of

temperature not being accompanied by much sweating or shivering. Has local anæsthetic properties,—mixed with an equal quantity of starch, useful in painful throat affections, and dusted on bleeding surfaces is hæmostatic. —P.J. 1893,2; B.M.J.E. i./93,79.

**Fuchsine.—Rosaniline Mono-Hydrochloride.** *Syn.* MAGENTA; ROSEINE.

*Dose.*—½ to 4 grains (0·032 to 0·26 Gm.), in a pill, with glycerin of tragacanth.

In brilliant iridescent crystals, forming a deep-red solution in water. Fuchsine is much used for staining histological preparations, and the bacillus of tubercle for microscopic examination.—B.M.J. i./82,916; ii./82, 735,786,1156; L. ii./82,183,1078,1138.

For internal use it should be specially prepared, and free from arsenic, otherwise it always contains this poison in variable quantity, owing to the process of its manufacture.—M.T.G. i./70,617. When used as a dye, this impurity may irritate the skin, especially in persons who perspire much.

Useful in renal albuminuria, given in 1 to 4-grain doses in pills.—Pr. xxvi.40,302; B.M.J. ii./79,947; ii./85,1062; Th.Gaz. March,1888,191.

**Gallanol.**

A compound obtained by heating tannin with aniline and treating the product with weak hydrochloric acid; in small white crystals slightly soluble in water. Soluble in alcohol and ether, but not in chloroform. Used with advantage in some forms of skin disease in place of pyrogallol or chrysarobin; in psoriasis and eczema as powder or ointment.—P.J. 1893,888; 1894, 730; B.M.J.E. ii./93,99; Pr. li.371.

**Hydracetin.**—*Syn.* ACETYL-PHENYL-HYDRAZIN.

*Dose.*—½ to 3 grains (0·032 to 0·2 Gm.) daily, in 1 or 2 doses. Its administration requires care, must not be continuous. A white, odourless, and almost tasteless crystalline powder, soluble 1 in 50 of water, freely in alcohol.

Pyrodin, an impure and dangerous Hydracetin.

Hydracetin used as 10 per cent. ointment in psoriasis; cure effected, but toxic symptoms caused by its absorption.—L. ii./89,397; ii./90,38; P.J. 1889,61; B.M.J. i./90,1276.

**yofin.** *Dose.*—3 to 8 grains (0·2 to 0·52 Gm.)
compound of paraphenetidin and methylglycolic , in minute, white, shining, granular crystals, urless, and with slight saline taste; soluble about 1 00 of water, more soluble in alcohol. Recom- ded as an antipyretic and anti-neuralgic.—B.M.J.E. 7,83; ii./97,88; P.J.ii./97,5; B.M.J. ii./97,814; ./97,728; Y.B.1898,456.

**ctophenin.**—*Syn.* LACTYL-PHENETIDIN.
*ose.*—5 to 15 grains (0·32 to 1 Gm.).
compound of lactic acid and phenetidin, in small te crystals, tasteless, soluble 1 in 330 of water. ers from phenacetin in containing a molecule of ic acid in place of acetic. Is an analgesic, given good results in neuralgia, migraine, and articular umatism, and as an antipyretic in typhoid, scarlet r, influenza, and other zymotic diseases.—B.M.J. 98,1055. Insomnia of insanity, good results.— I.J.E. ii./98,12.

**lakine.**—*Syn.* SALICYL-PARA-PHENETIDIN.
*ose.*—60 to 90 grains (4 to 6 Gm.) daily, in ded doses, in cachets.
n small light yellow needles, insoluble in water, htly soluble in alcohol. Useful as an anodyne in ralgia, headache, and especially in acute rheumatism. an antipyretic, action is slow and even, and free from r effects.—P.J. 1893, 507; ii./96, 39; B.M.J.E. 93,92.—B.M.J. ii./98,1055.

**Methacetin.** — *Syns.* PARA-ACETANISIDIN, OXY-THYLACETANILIDE. *Dose.*—2 to 6 grains (0·13 to Gm.) in cachets or mucilaginous fluid.
In white glistening scaly crystals, with a slightly ter, saline taste, and neutral reaction. Soluble 1 in ) of water, freely soluble in alcohol, chloroform, and cerin. Is an anti-putrescent, and corresponds in ion to phenacetin.—P.J. 1889,861,61; Y.B.1890,306. eful in rheumatism, unsuitable in phthisis.—Pr.xlv.56.

**ethylene Blue.**—*Syn.* TETRAMETHYLTHIONINE CHLORIDE. *Dose.* 1 to 4 grains (0·065 to 0·26 Gm.); hypodermically, 1 grain.
An aniline derivative in dull dark green crystals, form- an intense blue solution in water; purified from c chloride, used in its manufacture,

Has been recommended as an analgesic, of service in rheumatism, migraine, neuralgia, and painful nervous affections; has also been used in malarial fever, ague, nephritis, and retinitis, with varying results. Colours urine blue, and fæces acquire blue colour on exposure to air.—L. ii./90,38; i./91,99; i./92,547,817; B.M.J.E. ii./91,126,143,198; i./92,11,47; ii./92,72; i./93,60; P.J. /90,1057; /91,345; Pr. xlviii.57; B.M.J.i./97,781.

Extensive use in malarial fever, with good results.—L. i./93,545; ii./93,821; i./94,1462; P.J. ii./96,215; L. ii./98, 1776.

Internal use may cause cystitis.—L. i./98,611.

Action upon Lœffler's bacilli, by conveying oxygen tends to destroy them.—L. ii./94,733,792.

Recommended internally for gonorrhœa.—B.M.J.i./97, 140; P.J. i./97,405.

Severe neuralgia of the spermatic plexus cured. —P.J. ii./98,435.

Relieves neuralgias, but produces vomiting, diarrhœa, strangury and dyspnœa.—B.M.J. ii./98,1055.

Enemata 1 to 2 per cent. in warm water have been used in dysentery.—P.J. ii./00,703.

**Neurodin.**—*Syn.* ACETYLPARAOXYPHENYLURETHANE.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

In colourless, odourless crystals, slightly soluble in water. Recommended as an antipyretic and antineuralgic. —P.J. 1894,731; Pr. lii.214; B.M.J.E. i./94,12. Feeble, but harmless.—B.M.J. ii./98,1055.

**Orexine.**—*Syn.* PHENYLDIHYDROCHINAZOLIN.

*Dose.*—In coated pills or cachets, 3 grains (0·2 Gm.) each, 1 twice daily.

In whitish powder, with a pungent taste, irritating to the nostrils; almost insoluble in water. The **Hydrochloride of Orexine** is soluble and irritating, apt to cause vomiting.

**Orexine Tannate.** *Dose.*—4 to 8 grains (0·26 to 0·52 Gm.) in cachets. An insoluble greyish white powder, with properties of the above, but without taste or odour; assists digestion, and is specially useful internally for children.

Acts as a stomachic and appetiser, stimulating gastric secretion.—P.J. 1890,709,43; C. & D. i./90,300; B.M.J.E. ii./92,51; i./93,88; ii./98,10; B. & C. D. ii./00,474.

Stimulating effect rarely found; result consists only in irritation of mucous membrane of stomach. Unless well diluted, vomiting often occurs.—M.C. Jan. 1892, 237. —B.M.J.E. ii./92, 67.

**Phenacetinum**, **Phenacetin.** (*Off.*)—*Syn.* PARA-ACET-PHENETIDIN.

*Dose.*—5 to 10 grains (0·32 to 0·65 Gm.), in cachets, or suspended in mucilaginous fluids.

An acetyl compound of Phenetidin (the ethylic ether of paramidophenol). It is analogous to acetanilide (antifebrin). It is in white, shining, laminar crystals, inodorous and tasteless, sparingly soluble in water, soluble 1 in 20 of alcohol (90 per cent.), insoluble in acid or alkaline solutions.—B.M.J. i./88, 1126; i./89, 521; ii./89, 1417; Y.B. 1890, 310.

Tablets, 5 grains (0·32 Gm.). *Dose.* 1 or 2.

Doses of 4 to 8 grains reduce temperature in cases of pyrexia, but effects are only of short duration. Phenacetin 3 grains, Caffeine Citrate and Sugar, of each 1½ grains, is useful for sick-headache.

Reduces temperature and soothes pain; causes no rash or cyanosis. Successful in rheumatism, neuralgia, migraine, and hysteria.—B.M.J. ii. 88, 23; i./89, 101, 521; Th. Gaz. July, 1889, 482; C. & D. ii./88, 181.

Report on the coal tar antipyretics:—Antipyrine the best in regard to efficacy, rapidity, and certainty of action; phenacetin in regard to safety and duration of effects, having never produced subnormal temperature or collapse. All cause profuse perspiration, but do not shorten attack of fever. Phenacetin alone possesses a soothing and soporific action, doses of 3 or 4 grains being sufficient to ensure a quiet night.—Pr. xliii. 266.

Phenacetin useful in rheumatism, especially acute articular form; 4 doses of 15 grains, or 2 of 30 grains generally successful.—M.C. April, 1890, 33; Th. Gaz. 1890, 474.

Useful in some cases of pyrexia of phthisis.—B.M.J. i./91, 684.

Of great service in first stage of influenza; relieves headache and mitigates aching of limbs.—B.M.J. i./91, 1282, 1383.

Three doses of 15 grains each caused poisonous symptoms.—Pr. li. 131, 249. Also from three doses of 8 grains.—B.M.J. i./96, 146.

Discussion on evil results from phenacetin.—B.M.J. ii. 93,119. May cause a rash.—L. i. 95,91.

Has a notable freedom from injurious action.—B.M.J. i./94,90.

**Phenacetinum cum Caffeina Effervescens, B.P.C.**

*Dose.*—1 to 2 drachms.

Contains 5 per cent. Phenacetin and 2½ per cent Caffeine Citrate.

**Phesin.**—A sulpho-derivative of Phenacetin and

**Cosaprin.**—A sulpho-derivative of Acetanilide both freely soluble in water, have recently been shown to be pronounced antipyretics with prompt action.

These two drugs have seemed useful in influenza, muscular rheumatism and neuralgia.—B.M.J.E. i./97,52.

**Citrophen.**

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

A combination of citric acid with paraphenetidin, in white, minutely crystalline powder, slightly soluble in water, with a pleasant taste; antipyretic and antineuralgic.—B.M.J.E. i./96,87; L. i./00,36; B.M.J. ii./98,1056.

**Phenazonum. Phenazone** (*Off.*).—*Syns.* ANALGÉSINE. PHENYLDIMETHYL-ISO-PYRAZOLONE. (*Commonly known as* ANTIPYRINE (*a trade mark*)).

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.) in cachets or aqueous solution.

Is in pearly white crystalline scales or powder, bitterish in taste, soluble 1 in less than 1 of water, about 1 in 1 of alcohol and chloroform, and 1 in 40 of ether. Gives a deep red colour with solution of ferric chloride, which is nearly discharged by diluted sulphuric acid. It is an analgesic, febrifuge, and hæmostatic, reduces the temperature of fevers, including typhoid, scarlet, relapsing, puerperal, and hectic, and subdues the pyrexia of pneumonia, pleurisy, phthisis, and erysipelas. In doses of 4 to 15 grains it relieves locomotor ataxy, migraine, facial neuralgia, and sea-sickness. Hypodermically for lumbago, sciatica, angina pectoris, biliary and renal colic, and dysmenorrhœa. A measly rash has at times been observed after its use; the urine is not discoloured.—L. ii. 84,32; L. i./85,34,1051; B.M.J. ii. 84,914; B.M.J. i./85,1223; Edin. Med. Jour. 1884, 390.

Peppermint water or essence disguises its taste. It may be administered as an enema if contra-indicated by the mouth. Is incompatible with spirit of nitrous ether, or other nitrites in the presence of free acid, an apparently inert bluish-green compound being formed.—P.J. 1889,807; Th.Gaz.Feb.1889,90.

Antipyrine is also incompatible with the cinchona alkaloids, forming a precipitate which is soluble in weak acids.—P.J.1889.61; B.M.J. ii. 89,1113.

Liquefactions occur on rubbing it with butyl-chloral hydrate or sodium salicylate, but solutions with the latter keep without perceptible change if dilute.—P.J.1889, 862; Th.Gaz. May, 1889,359. Liquefaction also occurs on mixing with $\beta$-naphthol. Caffeine is rendered soluble in one-half less water by the addition of an equal quantity of Antipyrine; and Quinine hydrochloride 2, with Antipyrine 1, will dissolve in 4 of water, *c.p* .

**Effervescent Antipyrine** contains 5 or 10 grains in a drachm. *Dose.*—One teaspoonful or more. Phenazonum Effervescens, B.P.C., contains 8 per cent. (about 5 grains in a drachm).

**Injectio Antipyrin Hypodermica.**—1 grain contained in 2 minims. *Dose.*—8 to 30 minims (0·48 to 1·8 Cc.). The pain it causes may be lessened by the addition of cocaine, as in

**Injectio Antipyrin et Cocainæ Hypodermica,** containing 1 grain of Cocaine Hydrochloride in 150 minims of above. *Dose.*—8 to 30 minims or more.

**Tablets of Antipyrine** contain 2½ (0·16 Gm.) and 5 grains (0·32 Gm.) each.

*Dose.*—1 to 4 or more.

**Tablets.** Antipyrine 3 grains and caffeine 1 grain.

Atropine a prompt antidote; another case gradually yielded to an emetic and purgative.—P.J. 1889,607.

Chorea quickly relieved.—B.M.J. i./89,119; B.M.J.E. i./91,20; M.C. Jan. 1892,257; Pr. lii.46.

Relieves pains of locomotor ataxy.—B.M.J.i./87.1273.

Rapidly reduces sugar in diabetes.—B.M.J. ii./88, 977. Other successful cases.—Pr. xlii.454; B.M.J. i./89, 1472; ii./89,656; L. i./89,812; ii./89,431.

Relieved case of diabetes in an epileptoid stage.—B.M.J. i./96,970.

Epistaxis stopped by local use in solution.—B.M.J. ii./85,993; L. ii./93,453. Hæmostatic action.—B.M.J.E. i./91,198.

Suppresses flow of milk.—Pr. xlii.209; Th.Gaz. Sept. 1888,647; B.M.J. ii./90,955; M.C. Feb. 1892,319.

Useful in enuresis.—B.M.J. ii./89,838; L. ii./91,326.

Antipyrine diminishes the quantity of urine, of total urinary solids, urea and chlorides, and increases uric acid.—B.M.J. ii./88,6,68,977; L. ii./88,55.

Valuable in dysmenorrhœa.—L. i./90,77.

Antipyrine compared with phenacetin, *v.p.*171.

Rapid in action in reducing temperature, but this rises again on diminishing frequency of dose. Pyrexia often preferable to saturation with antipyrine.—B.M.J. i/91,684.

Impairment of sight after continued use.—L.ii./91, 1138; B.M.J.E. ii./92,87.

Four attacks of smarting rash from 10-grain doses.—B.M.J. ii./93,944; L. i./96,1562.

The importance of ill effects from antipyrine.—Report of Therapeutic Committee.—B.M.J. i./94,85.

Poisonous effects from 10 grains.—B.M.J. i./96,269, 511; M.C. Mar./97,453; B.M.J. ii./99,85.

8 grains twice hourly for the colic of gall-stones.—M.C. Oct.92,46.

Solution 35 to 50 per cent. used as a local anæsthetic in painful affections of larynx. Effect less profound than that of cocaine, but more prolonged.—B.M.J.E. i./93,76.

Antipyrine intoxication. poisonous effects and deaths.—B.M.J.E. ii./99,7.

Red skin patches and vesicles result.—B.M.J.E. ii./98,4.

May cause black patches on the penis.—B.M.J.E. i./99,8; ii./99,48.

**Acetopyrine.** *Dose.*—7½ to 15 grains (0·5 to 1 Gm.).

A combination of phenazone and acetic acid with slight odour of the latter. An antiarthritic remedy.—P.J. i./01, 138.

**Anilipyrin.**

*Dose.*—8 to 15 grains (0·52 to 1 Gm.).

A compound of acetanilide 1, and phenazone 2, melted together; is a soluble white powder, with properties allied to both.

**Antipyrine Tannate.**

*Dose.*—24 to 48 grains (1·5 to 3 Gm.) in 24 hours.

A tasteless antipyrine compound; contains 37 per cent. of antipyrine.

**Ferripyrin.**—*Syn.* FERROPYRIN.

*Dose.*—3 to 8 grains (0·2 to 0·5 Gm.).

A compound of ferric chloride and antipyrine; is a oluble orange-coloured powder. Given for chlorosis ıd anæmia as a hæmatinic, especially when an anal-esic action is required; acts also as a hæmostatic and ocal astringent, applied pure or 20 per cent. solution; .nd in gonorrhœa, injections of 1 to 1½ per cent.—. i./95,1320; B.M.J.E. i./95,44; P.J. 1895,990; i./96,30.

**Hypnal.**—*Syn.* MONOCHLORALANTIPYRIN.

*Dose.*—15 grains (1 Gm.), in cachet or suspended.

A compound of antipyrine and chloral, in colourless hombic crystals, slightly soluble in cold, more so in varm, water. Is sedative and hypnotic, specially useful vhere there is pain or cough.—B.M.J. i./90,970; . i./91,387; Pr. xlv. 54; P.J. 1890,889,977,161.

**odopyrin.**—*Syn.* IODANTIPYRIN.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

A derivative of antipyrine, in which an atom of odine replaces one of hydrogen; in white colourless ilky needles, tasteless and odourless, slightly soluble in old water and alcohol, readily in hot. Said to rapidly ower temperature and promote diaphoresis in typhus nd phthisis.—P.J. 1891,877; L. i./92,263; B.M.J. /92,22.

**Tablets**, 5 grains (0·32 Gm.). *Dose.*—1 to 4.

**Migranin**, *v.p.* 117.

**Salipyrin.**—*Syn.* **Antipyrinum Salicylicum, P. Aus. Add., Pyrazolonum Phenyldimethylicum Salicylicum, P.G. iv.**

*Dose.*—15 to 30 grains (1 to 2 Gm.).

A compound containing 42·3 per cent. of antipyrine nd 57·7 per cent. of salicylic acid, in white crystalline owder, with sweetish taste; sparingly soluble in water, eely in alcohol; decomposed by acids and alkalis.

Successful in acute rheumatic fever, but does not revent relapse; effective also in chronic rheumatism nd sciatica. Has antipyretic action, but must be given dose double that of antipyrine.—B.M.J. ii./90,850; .M.J.E. ii./90,6; ii./92,20; L. i./92,262.

Recommended for influenza and any acute catarrh.—.M.J.E. ii./93,103.

Useful for menorrhagia.—L. i./95,1005.

**Tolypyrin.**—*Syn.* TOLYLANTIPYRIN, PARATOLYLDIMETHYLPYRAZOLONE.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

A compound of antipyrine in which one hydrogen atom of the phenyl group is replaced by methyl. In colourless crystals, soluble about 1 in 10 of water; freely in alcohol; taste bitter.

Resembles phenazone as an antipyretic, antineuralgic, and antirheumatic.—P.J. 1893,605; Pr. l.383; B.M.J.E. i./93,47.

**Tolysal.**—*Syn.* PARA-TOLYL DIMETHYL-PYRAZOLONE SALICYLATE.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

A compound of tolypyrin and salicylic acid, in small white crystals, slightly soluble in water, freely in alcohol. Is antipyretic and analgesic in articular rheumatism and neuralgia.—P.J. 1893,605.

**Tussol.**—*Syn.* ANTIPYRINE AMYGDALATE.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

In white granular crystals, soluble in water, with saline taste; recommended for whooping-cough.—Am. M.S.B. 1894,1127; P.J. 1895,912,959.

**Phenocoll Hydrochloridum, Hydrochloride of Amido-acet-para-phenetidin,** a derivative of Phenacetin.

*Dose.*—7 to 15 grains (0·5 to 1 Gm.), in solution or cachet.

A white crystalline powder with sharp saline taste, soluble about 1 in 16 of water.

Reduces temperature without rigors or sweats, of marked effect in rheumatic fever, but none in gonorrhœal rheumatism. Temperature in phthisis reduced almost to normal by 77 grains in 24 hours; day temperature affected more than night; urine coloured reddish-brown.—L. i./91,1060; P.J. 1891,977,265; B.M.J.E. i./91,141.

On account of solubility is more rapidly absorbed and quicker in action than phenacetin, and appears to possess sedative action of latter in a larger degree. Useful in acute rheumatism; small doses in hectic fever. May be used hypodermically.—Pr. xlviii. 138; B.M.J.E. i./92,16,56.

Phenocoll a good and quick antipyretic, and in large doses effective in rheumatism; may be used when salicylic acid contra-indicated. Also beneficial in neuralgia arising from sudden cold.—L.ii./92,438; B.M.J.E. ii./92,4. Successful in malaria; as a prophylactic one dose daily.—P.J. i./96,178.

May cause alarming collapse and cyanosis.—B.M.J. i./98,1056.

Useful palliative in pertussis $\frac{1}{6}$ to 2 grains hourly.—P.J. ii./00,544.

**Effervescent Piperazine and Phenocoll**, *v.p.*397.

**Salocoll.**—*Syn.* PHENOCOLL SALICYLATE.

*Dose.*—10 to 30 grains (0·65 to 2 Gm.).

In small white silky crystals, less soluble in water than phenocoll hydrochloride. It combines the actions of phenocoll and salicylic acid, as an antipyretic, antineuralgic, and antirheumatic, and is said to cause no gastric disturbance, and to be free from any unpleasant effects.

**Pyoktanin.** A trade name for **Methyl-Violet.**

A mixture of methyl-para-rosanilines, in deep green crystalline powder, soluble 1 in 75 of water, 1 in 12 of alcohol; small solutions should be freshly made and kept in dark bottles, as they are decomposed by light. A 1 in 500 solution has been used as an injection for malignant growths, carcinoma uteri and sarcoma; it is also used as a dusting powder to ulcerated and diseased surfaces; also in various eye diseases, ulcers, and in phthisis. Its use in foot and mouth disease has been recommended in Germany.—L. ii./90,38,965; i./91,46,872.

Has slight antiseptic power, and is no check on suppuration.—L. ii./90,408,783; B.M.J. ii./90,702.

A yellow variety of Pyoktanin is said to be an **Auramine.**

**Saccharin**, *v.p.*424.

**Thalline**, **Tetrahydroparamethyloxychinoline or Tetrahydroparachinanisol Sulphate.**

*Syn.* THALLINÆ SULPHAS, Thalline Sulphate.

*Dose.*—3 to 5 grains (0·2 to 0·32 Gm.).

In white or whitish granular crystals, melts at 212° F., has a nauseous, slightly pungent taste, soluble 1 in 7 of cold water, which darkens by exposure to light. It possesses marked antipyretic properties, but diminishes the respiratory capacity of the blood by destroying its hæmoglobin, in this respect resembling kairine rather than antipyrine. Reports of its action are found to vary; some have noticed a gradual fall in temperature and absence of secondary disturbance, whilst others note a sharp fall, followed by rigors.—L. ii./84, 1018; L. i./85,723; B.M.J. i./85, 1176.

**Bougies of Thallin,** 2½ and 5 per cent. Contain 1 or 2 grains in each, combined with gelatin, and

**Antrophores,** or spiral spring bougies coated with gelatin, and medicated with 5 (or weaker 2½) per cent. of thalline, have been used for gonorrhœa.—L. i./88,591; B.M.J. ii./88,886. Are recognised in P.G. iv.

Report from Zurich, it is better than kairine, and less valuable than antipyrine.—Pr. xxxvi.127; L. ii./86.386.

Fatal effects follow its use. A case in which dose was increased up to nine grains proved fatal; four grains should not be exceeded.—B.M.J. i./87,793.

Successful use of injections of 1 to 2 per cent. in gonorrhœa.—L. ii./88,392,437.

**Thallinæ Periodidum.**—*Syn.* THALLINE PERIODOSULPHATE.

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.) in pill.

In bluish-black granular masses, insoluble in water. Has been used in the treatment of cancer and malignant disease of the uterus and rectum under the name of **Periodotetrahydroparamethyloxychinoline,** sometimes combined with musk or pilocarpine.—L. i./94,639.

**Thermodin.**—*Syn.* ACETYL-PARA-ETHOXY-PHENYL-URETHANE.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

In colourless, tasteless crystals, very slightly soluble in water. Antipyretic, fall of temperature gradual, no unpleasant symptoms.—B.M.J.E. i./94,12; P.J. 1894. 731; Pr. iii./129.

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## COCÆ FOLIA.

**Coca Leaves** (*Off.*). *Syn.* CUCA.

*Dose.*—½ to 2 drachms (2 to 8 Gm.).

The dried leaves of *Erythroxylum Coca* and its varieties.

Two varieties are met with, North Peruvian or Truxillo variety, *Erythroxylon Coca* var. *novo-granatense*, Morris, of a pale green colour, small and thin, and Huanuco or Bolivian variety, *E. bolivianum*, Burck, ought to be a distinct species, which are larger, broader, nd thicker, of a dull olive colour. The characteristic nner curved lines from base to apex are on this more arked.

The uses of the Coca leaf in Bolivia and Peru ave been described by many travellers, who have een it chewed. From two to eight or twelve drachms r more are used daily, in conjunction with the ashes of he Quinoa plant or with lime, as a remedy for, or preentive against, the effects of extraordinary physical xertion, to relieve the difficulty of respiration in scending mountains, and to appease hunger, thirst, and tigue. The leaves contain the crystalline alkaloid ocaine, *v.p.*180. They are said to be most active hen freshly dried, and are much used by the native ndians, miners, travellers, and others.

Modes of assay.—Amer. Jour. Phar. 1901,125.

**Elixir Cocæ.**—1 in 6 of Simple Elixir.

*Dose.*—1 to 4 drachms (**3·5 to 15 Cc.**) in water is palatable preparation.

**Extractum Cocæ.**

*Dose.*—2 to 15 grains (**0·13 to 1 Gm.**), in pills or astils.

Made with proof spirit; 1 = about 4 of leaves.

**Extractum Cocæ Liquidum** (*Off.*).

*Syn.* EXTRACTUM ERYTHROXYLI FLUIDUM, U.S.

*Dose.*—½ to 1 drachm (**1·8 to 3·5 Cc.**). 1 = 1 of aves exhausted with 60 per cent. alcohol.

If freed from wax, it is miscible with water and more alatable.

**Infusum Cocæ.**—1 in 50 of boiling water.

Is a refreshing beverage with a slice of lemon.

**Pastillus Cocæ Extracti.**—2½ grains (**0·15 Gm.**) of the extract in each.

*Dose.*—One every two or three hours.

Used for loss of voice due to weakness or relaxation f the vocal cords.

**Vinum Cocæ.**—About 1 in 8 of Sherry.

*Dose.*—¼ to ½ ounce (**7 to 15 Cc.**) diluted with wine water. Checks vomiting of irritable stomach.—. ii./85,1078.

This is strongly medicated; it must contain half a rain of alkaloid in the ounce, else it cannot be sold without a licence. Weaker preparations, containing about 1 in 20 or 30 of a sweet red wine, are sold by wine merchants.

Coca has been praised as a nervine and muscular tonic, preventing waste of tissue, appeasing hunger and thirst, relieving fatigue, aiding free respiration, and as being useful in various diseases of the digestive and respiratory organs; it is recommended for indigestion, gastralgia, gastrodynia, nausea, sickness, distaste for food, is given to relieve pain, nausea, vomiting or discomfort caused by excess in either eating or drinking or by pregnancy, and as a cure for morphine and alcohol craving. In using it for this in America it is said in some cases to have produced 'Coca Craving.' The leaves are sometimes smoked to relieve asthma; chewed to appease hunger and support strength, in the absence of food, and used generally for the stimulant and narcotic effects of tobacco and alcohol.

Is of use to steady the nerves of excitable persons—to a sportsman in shooting, for example; to give endurance, is used by travellers in Bolivia and Peru, and to counteract the effect of rarefied air on mountains.—L. ii.76,449.

It enables a greater amount of fatigue to be borne with less nourishment, and lessens the difficulty of respiration in ascending mountain sides. Tea made from it has much the taste of green tea, and is much more effectual in keeping people awake.—Markham's Peruvian Bark, p. 152.

Used in walking feats.—B.M.J.i./76,335,361,387,518, 519,527,750,752; P.J. 1876,883: 1877,221.

By chewing the leaves with lime or plant ash, the Indian finds the numbing effect on the mucous membrane of the stomach that he seeks.—P.J. 1885,266.

Great benefit was reported from chewing the leaves during the Army Manœuvres, 1893.

**Cocaina, Cocaine** (*Off.*).

*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.) in a pill or tablet.

This now important alkaloid, obtained from Coca, was first isolated by Niemann in 1860. It crystallises in shining monoclinic prisms, and requires 700 or more (upwards of 1,300, Dr. Paul) parts of water to dissolve it, soluble 1 in 7 of 90 per cent. alcohol, about 1 in 100 of liquid or soft paraffin, freely so in chloroform, ether (about 1 in 3), oil of cloves, and many other volatile oils, and 1 in 10 of castor, and other fixed oils. The paraffin and castor oil solutions diluted have proved serviceable in eye cases. Soluble also in about 1 in 3 of benzol, toluol, and amylic alcohol, and 1 in 80 of petroleum spirit. Insoluble in glycerin. Hot water decomposes it, forming an acid solution which contains benzoylecgonine, ecgonine, and cocaine benzoate. It is almost tasteless, but produces a tingling numbness on the tongue and local anæsthetic action on all mucous membrane. Good Coca leaves yield 0·5 per cent. or more of Cocaine, but the average is less, if fermented—often *nil*. Most of the Cocaine now used is manufactured in a crude form in Lima, and is purified and recrystallised or converted into the hydrochloride after its arrival in Europe. Some of the decomposition products are economically synthesized into Cocaine again.

No coloration is produced by dissolving pure Cocaine or its hydrochloride in cold concentrated sulphuric acid; with the salt, effervescence occurs, owing to hydrochloric acid gas being set free. Some samples of them give a faint evanescent yellow coloration, and others give a magenta tinge which gradually passes to a brownish yellow, and eventually the solution becomes almost colourless.

If Cocaine or a salt be moistened with nitric acid, evaporated to dryness, and a drop of alcoholic caustic potash added, a characteristic peppermint odour is developed.—P.J. 1890, 162.

As pure Cocaine (the alkaloid) is soluble in fats and oils, and its salts are not, it should always be used when it has to be combined with fatty or oily substances, for use externally, *e.g.*:—

**Bougies of Cocaine.** $\frac{1}{2}$ grain (0·032 Gm.) or more, with cacao-butter. Are useful in painful affections of the urethra.

**Ceratum Cocainæ.** 1 in 30 of petroleum cerate. Is useful in burns, scalds, urticaria, pruritus, &c.

**Collodium Cocainæ.** 2 per cent. in flexible collodion. Allays the itching, and is a cure for inflamed chilblains.

**Emplastrum Cocainæ.**—1 dissolved in 50 of lead plaster heated in a water bath. Useful for intercostal neuralgia, sciatica, tender corns, bruises, &c.

**Oleum cum Cocaina.**

A 2 per cent. solution, more or less, if ordered, in almond oil, is mostly used. This is useful for earache.

For the eye a 2 per cent. solution in **Castor Oil** is used, may be combined with homatropine (*v.p.* 93); for catheters, a solution in equal parts castor and almond oils does well, it is viscid, and does not congeal in winter.

**Suppositories** and **Pessaries** $\frac{1}{2}$ grain (0·032 Gm.), or more with cacao-butter.

**Tabellæ Cocainæ,** Cocaine Tablets. $\frac{1}{20}$ grain (0·0032 Gm.) or more if ordered, with chocolate.

*Dose.*—1 every quarter-, half-hour or hour, quickly eaten and swallowed. Useful for sea sickness, chloroform or alcoholic sickness, and sickness of pregnancy.

Cocaine Tablets useful for sea-sickness where there is much pain and irritability.—B.M.J. ii. 93,596.

**Unguentum Cocainæ** (*Off.*).—Cocaine 1. Oleic Acid, by weight, 4 (1 grain = 2 drops), heat gently to dissolve, add Lard 20. Useful where absorption is required, as in facial neuralgia, shingles, eczema, erysipelas, urticaria, and pruritus (R.O.H. has Cocaine 1, Soft Paraffin 50; heat to dissolve).

Cocaine is soluble 1 in 2 of anhydrous lanoline if gently warmed. Useful to anoint internal os in labour. —B.M.J. ii./94.1427 ; P.J.1895.912.

**Cocainæ Citras, Cocaine Citrate.**

*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

In deliquescent white crystals ; used by dentists.

**Cocainæ Hydrobromidum,** **Cocaine Hydrobromide.**

*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.). Is a stable salt, in small, white, hard, acicular crystals.

**Cocainæ Perbromide, Di-Bromo-Cocaine Hydrobromide.** *Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain.

Orange-red crystals, somewhat unstable, prepared by action of bromine in excess, on alcoholic solution of Cocaine.

**Cocainæ Hydriodidum,** **Cocaine Hydriodide.**

*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

In hard, colourless columnar crystals, slightly soluble in water. Useful for producing dental anæsthesia.

**Cocainæ Periodidum. Di-Iodo-Cocaine Hydriodide.** *Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain.

In violet-black crystals, prepared by decomposition of Cocaine Hydrochloride, potassium iodide and slight excess of iodine in strong alcoholic solution, or, direct action of alcoholic solutions of the base and of iodine, mixed, apparently produces the same on crystallization

**Cocainæ Hydrochloridum** (*Off.*).

*Off. Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.), but more may be given, in aqueous solution, pill, or pastil.

This salt has been most used: if pure it is found in hard, colourless, short acicular crystals, or more frequently met with in light, shining, lamellar crystals, with bitterish taste, free from odour; being soluble in half its weight of water, the tingling numbness or local anæsthesia it produces on the tongue is more intense than that produced by pure cocaine.

Freely soluble in alcohol and in glycerin, insoluble in ether, fats, and oils, and therefore it is not so compatible with them. This salt will crystallize with 9·5 per cent. of water of crystallization, but the anhydrous salt alone is official. It dissolves with effervescence but without colour in cold sulphuric acid (see Cocaine, p. 181), but the mixture chars if heated, benzoic acid being sublimed. Ignited, it burns without residue. Its aqueous solution gives a white precipitate with ammonium carbonate, soluble in excess. It is also precipitated by borax. If one drop of solution of potassium permanganate, B.P., be added to a solution of 1 grain of it in a drachm of distilled water, acidulated with three drops of diluted sulphuric acid, the bright deep colour of the solution, if kept covered, should not change during half an hour, indicating absence of cinnamyl-cocaine and other organic matter. If the sulphuric acid be omitted, as in B.P. test, the addition of permanganate produces a red precipitate which does not change colour within an hour. The salt should not only be in good crystals, but should, by the following modification of MacLagan test, yield a distinctly crystalline precipitate of pure Cocaine within three minutes, when 1 grain of it is dissolved in 2 ounces of distilled water, and six to eight drops of solution of ammonia, B.P., are added and well stirred. If more than 4 per cent. of amorphous alkaloid (principally isatropylcocaine) be present, the mixture will only show a milky cloudiness. The precipitate redissolves after twenty-four hours or more, the Cocaine being converted into methyl alcohol and benzoylecgonine.—P.J. 1888, 783. Isatropylcocaine is highly toxic.—C. & D. i./98,512; P.J. i./98,449; ii./98,26.

P.G. iv. gives the additional test of Metzer: 0·05 Gm.

Cocaine Hydrochloride dissolved in 5 Cc. water, 5 drops 3 per cent. Chromic Acid solution added. A yellow transient precipitate is produced but precipitates again on further addition of 1 Cc. Hydrochloric Acid, showing absence of Günther's base as impurity.

Crystals of cocaine for eye surgery.—B.M.J. ii. 98,490.

Evil results having followed the application of Cocaine as an anæsthetic in several dental and eye operations, the bad effects have been attributed to fungoid growths. Whether due to these, to impurity of the salt, or to the condition or idiosyncrasy of the patients is not clear. Salicylic acid has been found to be the most effective preservative, and its addition is ordered in the official hypodermic injection (see below).

**Buginaria Cocainæ Hydrochloridi,** NASAL BOUGIES OF COCAINE HYDROCHLORIDE.

One-sixth of a grain in each with gelato-glycerin basis. Useful in hay fever, sometimes combined with $\frac{1}{120}$ grain of atropine sulphate in each.

**Guttæ Cocainæ Hydrochloridi, R O.H.,** 1 in 50.

**Hypodermic Lamels of Cocaine** contain $\frac{1}{4}$ grain, and **Hypodermic Tablets** $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{4}$, and $\frac{1}{2}$ grain of the hydrochloride each.

**Injectio Cocainæ Hypodermica** (*Off.*). *Syn.* **Liq. Cocainæ Hydrochloratis.**—B.P. Additions, 1890.

Salicylic Acid $1\frac{1}{2}$, Boiling Distilled Water *q.s.* to produce 1000 when cooled and Cocaine Hydrochloride 100 added. *Dose.*—2 to 5 minims (0·12 to 0·3 Cc.).

This official injection has hitherto been known as **Liquor Cocainæ Hydrochloratis,** and is a stable 10 per cent. solution, which for the use of oculists may be diluted to a 2 per cent. solution, and still remain free from tendency to develop fungoid growths. It may be used as an application for producing local anæsthesia. *The brush applying it should not be dipped in the stock of solution.* A solution up to the strength of 50 per cent. may be prepared in salicylic acid solution of the above strength, which is nearly saturated.

**Lamellæ Cocainæ, Discs of Cocaine** (*Off.*); R.O.H.

Discs of gelatin, each containing $\frac{1}{50}$ grain of Cocaine Hydrochloride. These should be prepared in an atmosphere carefully freed from dust and germs of fungi and disease. Also prepared containing $\frac{1}{100}$ and $\frac{1}{200}$ grain in each, and in combination with Atropine (*v.p.*89), Homatropine (*v.p.*94), and Physostigmine (*v.p.*387).

**Pastillus Cocainæ Hydrochloridi.** $\frac{1}{10}$ grain (0·0065 Gm.) in each (or more if ordered).

Useful in allaying irritation of the throat and hoarseness.

**Pastillus Cocainæ et Morphinæ** contains $\frac{1}{15}$ grain (0·0043 Gm.) Cocaine and $\frac{1}{30}$ grain (0·0022 Gm.) Morphine. Useful for coughs.

**Pilula Cocainæ Hydrochloridi.** $\frac{1}{5}$ grain (0·013 Gm.) in each (or more, if ordered), with milk sugar and syrup.

**Trochisci Cocainæ Hydrochloridi.** $\frac{1}{12}$ grain (0·0054 Gm.) in each. Used for similar purposes to the pastils.

**Cocainæ Nitras**, Cocaine Nitrate.

*Dose.* $\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

In large colourless crystals, readily soluble in water. Is compatible with silver nitrate, and if used previously in solution lessens the pain caused by the latter salt.

**Cocainæ Phenas,** Cocaine Carbolate (?).

*Dose.*—In pill, $\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

A slightly soluble pasty compound, used by dentists and given for gastralgia.

In nasal and laryngeal use anæsthesia slower, but more prolonged than after hydrochloride. Is strongly antiseptic and may safely be used on cut surfaces, as its coagulating effect on albumen prevents too rapid action. —B.M.J.E. i.93,80.

Cocaine phenate may be used in cases of idiosyncrasy against the hydrochloride. Pr. li.299.

**Cocainæ Salicylas,** Cocaine Salicylate.

*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

Is in minute snow-white crystals, slightly deliquescent; it forms a solution which keeps well, but is a doubtful salt. In spasmodic asthma, the hypodermic injection of a good dose (6 grains), at the beginning, relieves the attack.—B.M.J. ii./86, 117.

**Cocainæ Sulphas**, Cocaine Sulphate.

*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

A deliquescent granular white powder.

The local anæsthetic action of **Cocaine** was noted by the discoverer of the alkaloid—Niemann, who wrote (1860): "It produces temporary insensibility on the part of the tongue with which it comes in contact." ('Ann. Ch. Pharm.' cxiv. 215). This fact lay dormant until in 1884 Koller, having noticed its action on the pharynx, extended its use to ophthalmic surgery, with the result that when the solution was applied to the eye, the sensibility of the cornea was so far diminished that it could be pressed with a probe; the cornea and the surface of the eyeball and eyelids adjoining could be rubbed; a speculum could be inserted and the lids widely separated, the conjunctiva could even be seized with fixation forceps, and the eye moved in various directions without causing the patient notable discomfort. Koller's report.—L. ii./84,990.

Besides rendering the superficial structures of the eye anæsthetic, Cocaine is a mydriatic, and paralyses the accommodation, the latter passes off sooner than the dilatation of the pupil; this does not at longest last more than twelve hours. The sensitiveness of the iris is less affected than that of the surface of the eye. The great excellence of cocaine consists in the limitation of its action to the tissues to which it is applied. When applied to a mucous membrane, it has probably a constricting action on the vessels, produces a blanching of the part, and simultaneously a deadening of the nervous excitability which passes into a complete state of anæsthesia; its effect, however, does not sink deeply into the adjacent tissues, nor does it last long. This surface application is sufficient to render painless the use of a caustic, the passage of catheters and lithotrites, or the performance of operations which do not involve the more deeply-seated tissues. Injected hypodermically, the aqueous solutions of its salts deaden sensibility around the puncture, so that the deep prick of a pin is not felt—the surrounding part is reddened, but after thirty minutes it resumes its normal condition; injected locally, is more useful than morphine in relieving sciatica. Although solutions of it are little absorbed by the skin,—even a chloroform solution is scarcely at all absorbed,—yet the application of an ointment of the pure alkaloid, made with lard, or an oily solution of it, to a surface will remove the pain of inflammation, as in eczema or erysipelas, or the pain of facial neuralgia or shingles, and the irritation of urticaria or pruritus. Burns and scalds should first be brushed over with a 4 per cent. aqueous solution of the hydrochloride, and the pure alkaloid combined with Carron oil (Linimentum Calcis), petroleum cerate, or boric acid ointment, afterwards applied on cotton wool or lint. Combined with boric acid ointment, also, it may be used for fissured nipples, or for these and stings and bites of insects an aqueous solution may be applied. The irritability of inflamed mucous surfaces, as in hay-fever, influenza, coryza, bronchitis, spasmodic asthma, laryngitis, and pharyngitis, is much relieved by the spray of a watery solution of a cocaine salt. Its local application relieves the pain of many minor obstetric operations, and the spasmodic and painful affections of the vagina, causing dyspareunia and vaginismus, may be minimised, by vaginal injections of a quarter of a grain of cocaine in 1 per cent. oily solutions. In dentistry, it is useful in toothache; it deadens the sensibility of exposed pulp. The pure alkaloid is preferable to the salts for this purpose, as, being only slightly soluble in water, it is less liable to be washed away by the saliva. If a little be inserted in the cavity of a carious tooth and covered with a plug of wool soaked in chloroform of mastiche (*v.p.*148) all pain is obtunded for a considerable time. A strong solution in oil of cloves is also useful. In preparing the cavity, previous to filling, or applying arsenical paste, sensitiveness is more effectively treated by using a salt of cocaine—either the hydrochloride or citrate; the latter has been recommended, as it can be formed into a pellet with the fingers and pressed into the cavity, but it is not so rich in true alkaloid as the hydrochloride; yet, either of these is absorbed more quickly than the alkaloid itself, which, as before said, is more suitable for plugging a cavity for some length of time. In extraction, if a dose be hypodermically injected into the gum on each side at the base of the tooth, after waiting about five minutes this may be done almost painlessly, and, if a 50 per cent. aqueous solution of the hydrochloride be painted on the surrounding gum, the first pain of inserting the forceps is annulled. The eye, ear, throat, mouth, tongue, pharynx, nose, larynx, trachea, urethra, vagina, os uteri, anus, rectum, and, in fact, the whole mucous membrane, as well as cut surfaces and open sores, are affected by it, but the true skin is less so.

Solutions of cocaine hydrochloride have been employed topically in excision of the tonsils, cauterizing the turbinated tissue of the nose, painting chancres previous to the application of nitric acid or other caustics, opening abscesses, removing polypi, and many cases of iridectomy and operation for cataract, squint, and the removal of foreign bodies from the eye. For the eye an aqueous solution of the hydrochloride of cocaine of mostly 2, but sometimes 4 per cent. is used, and for other purposes; from 4 to 20 or even 50 per cent.; of the weaker solutions it is necessary to repeat the application three to five times, at intervals of three to five minutes. No operation should be commenced within at least ten minutes of the first application. Injurious effects, either local or constitutional, rarely follow its use. Its action commences in three minutes, increases from ten to twenty minutes, and mostly disappears within half an hour. The anæsthesia may be prolonged by applying an Esmarch's bandage round the site of injection.

Toxic effects are best counteracted by amyl nitrite, nitroglycerin, or ammonia, with strong coffee by mouth or enema, and ether hypodermically.

*Summary of its uses by fifty-two Surgeons in the U.S.*—In minor surgery is of value in all operations where circulation can be temporarily arrested,—used in solution of not more than 4 per cent. Is of little use as a local anæsthetic in anal work, such as fistula. In genito-urinary surgery must be used with care; should not remain in contact with mucous surface more than a few moments. In gynæcological work is of limited service. For ophthalmic surgery Cocaine is the anæsthetic *par excellence*,—in this its use is most widespread, and its application most satisfactory; it is suitable for all operations on the eyeball except iridectomy for acute glaucoma and enucleation; as it causes dryness of the epithelium it should not be used long prior to operation. Is of great value in nasal, aural, and throat operations. Th. Gaz 1891, 518.

Normal Saline Solution (Sodium Chloride 0·6 per cent.) may be used as a vehicle, especially for eye work.

**Chloroform and Cocaine Anæsthesia** (combined).

Chloroform is given, 1 to 3 drachms, with an Esmarch's mask, and from ½ to ¾ grain of cocaine, in 3 to 5 per cent. solution, injected into the part. Less chloroform suffices, vomiting is rare, and depression on waking slighter than chloroform alone produces.—L. ii./88,220; B.M.J. ii./88,903; Th. Gaz. 1888,630; 686, 849.

Anæsthesia for major operations is produced by ntraspinal injections, sometimes with trace of morphine added; general effects not manifest but local below puncture very marked, *c.p.*191.

Cocaine is a stomachic, useful after excess either in eating or drinking, in distaste for food, in sea sickness and vomiting of pregnancy or from other causes; it also improves the condition of the stomach in atonic indigesion and nervous affections of this organ, as well as n phthisis and cachectic cases, especially those arising from the use of mercury.

Hydrochloride of cocaine, 20 per cent. solution allowed nitric acid to be applied to tongue without pain.—L. ii./84,1023. For warts.—L. i./85,1052.

Hay fever relieved by solution applied locally to nose and eyes.—L. i./85,925; ii./85,50,99,123,232,820; B.M.J. i./85,1084,1291; ii./86,18; i./88,1329.

The painless removal of urethral caruncles.—B.M.J. ii./85,153; and of epithelioma.—L. i./87,56.

Rectal and prostatic pains relieved by ½-grain suppositories.—Pr. xxxiv.128.

In sea sickness, several cases, $\frac{1}{16}$ grain doses every two or three hours in aqueous solution were successful. A girl of 18 had been sick 24 hours before it was tried; she had a double dose every half-hour with "truly magical effect."—L. ii./85,451,912; B.M.J. ii./85,627.

Sea sickness effectually checked by two lozenges each containing $\frac{1}{12}$ grain of hydrochloride of cocaine taken when first threatened and two more in twenty minutes. One-grain doses in solution also effectual.—P.J. 1886,712; B.M.J. ii./87,1236.

Poisonous symptoms from hypodermic injection of 20 minims of Liquor Cocainæ Hydrochloratis.—L. ii. 94, 1151.

Poisoning by about 9 grains swallowed, with recovery. —L. i./95,283. Also after 14 grains.—B.M.J. i./96,1032.

Cases of fainting when solution of cocaine salt was applied to the eye.—B.M.J. ii./85,1060; i./86,67. Also after hypodermic injection.—Pr. xxxiv.450.

In eye operations, the diminished elasticity produced by cocaine may cause inconvenience.—L. ii./85, 1158.

No harm known to follow a 4 per cent. solution for eye purposes.—B.M.J. ii./86, 451.

Vomiting of pregnancy relieved by internal use.—L.ii./87,754. For sore nipples.—B.M.J. ii./87,94.

Camphor 5, chloral 5, cocaine hydrochloride 1, warmed, form an oily liquid which cures toothache. —L. ii./86,324.

In dentistry is of doubtful advantage, there is some danger, the gums do not absorb it.—L. ii./86,1190.

Cases of poisonous symptoms following injection into gums.—L. i./88,872; Pr. xli.288; B.M.J. ii./90,732.

Lithotrity rendered painless by the injection of 16 grains dissolved in 12 ounces of warm water into the bladder.—B.M.J. i./88,972.

Cases of toxic action: from urethral injection of 12 grains,—Pr. xli.369; from vesical injection,—B.M.J. i./89,373; from rectal injection,—L. ii. 89,656; from hypodermic injections,—B.M.J. i./89,382; L. ii./88, 715; i./89,274; from internal use, 20 grains accidentally swallowed,—L. i./89,292; 4 grains in child of 4 years,—Th. Gaz. Jan. 1889.26; other cases,—B.M.J. i./89,382; Th. Gaz. June 1888,16,373.

Résumé of poisoning cases; more than $\frac{3}{4}$ grain should not be injected at once. Opium and morphine useless as antidotes; chloroform or ether inhalation recommended to prevent respiratory tetanus.—B.M.J. i./89. 311. Toxic effects counteracted by ammonia.—L. i./88. 394; ii./88,715; ii. 89,1126. Bandaging recommended to localise action.—L. ii./90,405,542; Pr. xlv. 376.

Against indiscriminate use, and formation of cocaine habit.—B.M.J. i./89,973.

Best antidote is amyl nitrite.—B.M.J. i. 88,757; i./96,335,447.

In diabetes, after codeine treatment, cocaine, $\frac{1}{4}$-grain doses given; overcame obstinate constipation, and ataxic gait disappeared.—L. ii./89,735.

Pruritus, several cases relieved by cocaine 2 per cent. in oil of theobroma.—B.M.J. ii 89.194.

Useful in psoriasis of tongue; used before a meal averts pain from passage of food; in painful affections of stomach affords relief and averts vomiting, as that of pregnancy; in pruritus ani and itching skin diseases; and as a rectal injection, checks diarrhœa and straining of dysentery.—R.

Recommended to give 1 drop Nitroglycerin Solution a minute before injection of cocaine, repeating at intervals if the pulse and temporal region be not affected.—B.M.J. ii./91,1204; L. ii./94,420.

Case of cocainism; usual dose 10 grains, sometimes 24 to 36 grains; vertigo, palpitation and hallucinations caused.—B.M.J.E. ii./92,21.

Deaths from cocaine poisoning.—P.J. ii./95,22,171; L. ii./95,1104; i./98,1209; B.M.J. ii./95,1162,1334.

Recovery from poisoning by 10 grains, under strychnine and digitalis.—L. i./98,718.

A 10 per cent. solution on wool applied to rigid os uteri in first stage of labour produces rapid dilatation.—B.M.J. ii./98,1374.

Cocaine solution a direct antidote to stings of bees and wasps.—P.J. ii./99,226d.

Injections of a ½ per cent. solution into the spinal canal to produce anæsthesia for operations.—L. ii./99, 1536; B.M.J.E. ii./00,88; i./01,3; Pr. lxv.178; M.C. 1901,377; Med. Ann. 1901,118.

Subarachnoid injection produces uterine contractions and may produce labour.—L. i./01,615.

**Tropacocaine** **Benzoyl-pseudo-tropeine.**

Obtained from Java Coca. Is costly. The **Hydrochloride** is freely soluble in water, and is a powerful anæsthetic; in the eye causes neither ischæmia nor irritation or hyperæmia. Three per cent. solution recommended; anæsthesia quicker than with Cocaine, but more transitory; the action may be kept up by adding a drop from time to time. Mydriasis occurs occasionally, but slight. No harmful symptoms observed in any case. Injection into gums in large doses only affected pulse for 10 minutes, and did not affect respiration. Employed where it is desired to produce anæsthesia without dilatation of the pupil.—P.J. 1892, 241; 1893,686; ii./96,174; B.M.J. ii./92,402; i./93, 1318; ii./93,1105; L. i./93,278; ii./93,1254; ii./94, 335; Pr. li.129.

Neutral aqueous solutions keep apparently unchanged for an indefinite period.—P.J. i./99,431.

**Acoin.** **Di-para-anisyl-mono-phenethyl-guanidine Hydrochloride.**

A white crystalline powder, soluble 6 in 100 of water, is recommended as a local anæsthetic and for subcutaneous injection in eye surgery.—L. ii./99,1082; B.M.J. i./99,1340; B.M.J.E. ii./99,76.

**Eucainæ Hydrochloridum.** **Eucaine Hydrochloride.**

Under this name two salts are met with in commerce, which are, however, different in constitution. They are synthetic compounds chemically allied to Cocaine, while resembling it also in the production of local anæsthesia.

**Eucaine Hydrochloride A,** α-EUCAINE.

A benzoyl-methyl compound of oxy-piperidine, in small glistening crystals, soluble 1 in 10 of water, is used for general local application.

**Eucaine Hydrochloride B,** β-EUCAINE.

The hydrochloride of Benzoyl-vinyl-diaceton-alkamine, in small white opaque crystals, soluble about 1 in 20 of water, is more suitable for ophthalmic and hypodermic use.

Eucaine (A) is slower in action than cocaine, and less active, solutions of double the strength that of cocaine being necessary, but anæsthesia is more prolonged, while the heart is not affected, nor the pupil dilated. Solutions keep well.—P.J. i./96,342,412; ii./96,63; i./97,82.

For nose and throat 8 per cent. (A) suitable; less toxic than cocaine.—B.M.J. i./97,134; B.M.J.E. ii./96,91.

Résumé of local anæsthetic uses, no toxic effects.—(B) L. ii./97,39; (A) B.M.J. ii./97,1560; Y.B. 1898, 158,452; (A) B.M.J.E. i./98,48; L. ii./99,552.

Relative toxicity of Cocaine and Eucaine. Action of Eucaine is constant, first action is as a stimulant, is a diuretic, is three times less toxic than cocaine. Boiling does not affect the efficacy of Eucaine solutions.—Therap. 1899,273.

β-Eucaine, its employment in dentistry.—Therap. 1898,139.

2 per cent. solution of β-eucaine useful for extractions. .J. ii./98,645.

Eucaine-β is less toxic, but less active than cocaine.—.M.J.E. ii./98,12.

Local analgesic for small operations.—L. i./00,156.

Remarkable results obtained by local infiltration anal-esia instead of general anæsthesia, prior to performing urgical operations. The fluid used is a sterile solu-on of β-Eucaine 1, sodium chloride 8, and water 1000. The solution for infiltration is preferably repared from powders, each containing 3 grains of -Eucaine and (24 grains of) pure crystalline sodium loride. One of these powders is dissolved in 7 ounces f distilled water, and the solution boiled for a few inutes just before use. A special syringe is employed. —L. i./99, 282; P.J. i./99,119.

For local anæsthesia of ear, nose and throat, Cocaine Hydrochloride, β-Eucaine 1, Aniline 5, Rectified Spirit 5.—L. i./01,698.

### Unguentum Eucainæ.

Eucaine Hydrochloride A 1, Olive Oil 2, Hydrous Wool Fat 7.

For pruritus, Menthol 2 per cent. may be added.

## Holocaine Hydrochloride.

The hydrochloride of para-diethoxyethenyl-diphenyl-amidine, produced by combination of phenacetin and para-phenetidin. In small colourless shining crystals, soluble 1 in 75 of water.

One per cent. solution is equal to 2 per cent. cocaine solution. As an anæsthetic for operations on the eye, it allows more bleeding, but little or no dilatation of the pupil. Anæsthesia is prompt and lasting, and is not accompanied by mydriasis or disturbance of the accommodation. On account of toxic properties is not adapted for hypodermic use.—P.J. i./97,368; L. i./97, 1466; B.M.J.E. i./97,55,75,87,92; Y.B. 1898,79,158, 368.

Its use in ophthalmic surgery.—L. i./97,1466; ii./97, 765; B.M.J.E. i./98,36,99; B.M.J ii./98,619.

## Nirvanin.

The hydrochloride of diethyl-glycocoll-para-amido-ortho-oxybenzoic-methyl ester. In small white prisms and readily soluble in water. Possesses anæsthetic properties and has been synthesized with the object of avoiding the respective disadvantages of orthoform and cocaine. Is very slightly toxic, 7 grains having been injected without injury. Effect is more prolonged than cocaine. It has a powerful antiseptic action, a 1 per cent. solution being strongly bactericidal.—P.J. i./99,95, 481; B. & C. D. i./99,1,701; B.M.J.E. i./99,28.

**Orthoform.** Methyl ester of Para-amido-meta-oxybenzoic acid.

'**Orthoform, New,**' now mostly in demand, is the Methyl ester of *Meta*-amido-*para*-oxybenzoic Acid.

*Dose.*—1½ to 3 grains (0·1 to 0·2 Gm.), for cancer and painful ulceration of the stomach.

A white crystalline powder, possessing local anæsthetic and antiseptic properties. Is slightly soluble in water, and forms a **Hydrochloride** soluble about 1 in 9 of water; action of base is more prolonged.

A 10 per cent. aqueous solution of the hydrochloride is used, or 10 to 20 per cent. with lanoline or paraffin ointment or collodion solution of pure orthoform, or this as a dusting powder may be employed to alleviate pain in sores or burns, but has little action unless there is a breach of surface. Orthoform appears to be non-poisonous, but the hydrochloride is too acid and irritating for ophthalmic or hypodermic use.—L. ii. 97,738; B.M.J. i./98,362; B.M.J.E. ii./97,103; P.J. ii./97,277; M.C. Dec.97,198. Ulcers of larynx.—B.M.J.E. i./99,64.

Recommended as a local application to ulcers.—B.M.J. i./98,362.

Orthoform in glycerin renders painless operations within the uterus.—L. i./98,1434.

An emulsion used as an application to the larynx, 25 parts to olive oil 100 parts, causes a burning sensation followed by 24 hours' anæsthesia.—B.M.J.E. i./99,20.

A kind of necrosis, similar to that caused by phenol, may result from the local application of orthoform.—P.J. ii./99,148e.

Drawbacks to its use.—B.M.J.E. i./99,79.

Is analgesic rather than anæsthetic.—B.M.J.E. ii./99,31.

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## CODEINA (*Off.*).

**Codeine.** *Dose.*—¼ to 2 grains (0·016 to 0·13 Gm.).

An alkaloid from opium or from morphine, in nearly olourless trimetric crystals. Soluble 1 in 80 of water, ery soluble in diluted acids, in alcohol, and in excess f aqueous ammonia, but insoluble in excess of potash olution. It is a methylic ether of morphine,—monomethyl-morphine. It has a slightly bitter taste. In moderate doses is a hypnotic, and in small doses freuently it allays cough in phthisis. In diabetes it lessens he amount of sugar in the urine.

**Codeine and Glycerin Jelly.** *Dose.*—1 drachm. Codeine 72 grains, Citric Acid 720 grains, Refined Gelatin 6 ounces, Glycerin 36 ounces. Oil of Lemon drachm, Balsam of Tolu and Distilled Water of each .*s.* Boil the Tolu in water as ordered in B.P. for making syrup of tolu; of the liquor so prepared take 30 ounces; in 25 ounces of it soak the gelatin, heat till t is dissolved, and add the glycerin. In the remaining 5 ounces of liquor dissolve the Codeine and citric acid, add he solution to the above, add also the oil of lemon, stir well together, and pour into bottles to 'set.' Useful in hronic laryngitis, phthisical cough, &c.—B.M.J. i./84, 761. Also in ulcer of the stomach.

**Hypodermic Lamels** contain ¼ grain Codeine combined with gelatin.

**Pastillus Codeinæ, T.H.** ⅛ grain in each.

**Pilula Codeinæ Composita.**

Codeine ¼ grain (increased to 2 grains if necessary), Extract of Nux-vomica ½ grain, Extract of Lettuce ¼ grain or more. To make one pill, to be taken two or three times a day, for diabetes.—*Pilula Codeinæ Composita, G.H.*, is Codeine ½ grain, Extract of Cascara Sagrada 2 grains Kaolin ½ grain, Soap to 4 grains.

**Trochisci Codeinæ** contain ⅛ grain (0·008 Gm.).

**Codeinum hydrochloricum, P. Aus. Add.; Codeine Hydrochloride.**

*Dose.*—¼ to 2 grains (0·016 to 0·13 Gm.).

In white crystalline powder, freely soluble in water.

**Codeinæ Phosphas.** Codeine Phosphate (*Off.*).

*Dose.*—¼ to 2 grains (0·016 to 0·13 Gm.).

In granular snow-white crystals, soluble 1 in 4 of water. Contains 70 per cent. of alkaloid, and is most suitable for hypodermic injection, 1 grain in 6 minims.

**Syrupus Codeinæ** (*Off.*).

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

Codeine Phosphate 40 grains, Distilled Water ¼ ounce; dissolve, and add Syrup 19¾ ounces.

Linctus Codeinæ, G.H. *Dose.*—1 to 2 drachms.

Syrup of Codeine 1, Syrup of Virginian Prune 1.

**Syrupus Picis cum Codeina**, *v.p.*401.

Sleep produced by Codeine is not followed by the heaviness of that from morphine.—L. i./66,250.

Syrup useful in troublesome cough, especially phthisical.—B.M.J.i./79,546; Pr.xxiv.447; B.M.J.ii./88,1245.

In diabetes, doses of ¼ to ½ a grain three times a day at first, the dose being increased gradually until sugar disappeared from the urine, or increasing drowsiness demanded its discontinuance.—B.M.J. ii./81,474.

In diabetes considered to be of greater service than the other constituents of opium, as it does not produce the same narcotic effect as opium and morphine.—Guy's Hosp. Rep. xv.420; B.M.J. ii./88.1245; Pr. xli.16; xlii.374; B.M.J. i./89,118; Pr. lii.215.

Diabetes mellitus, three cases recorded with marked improvement. Codeine should be given at once, and in fairly large doses, until some physiological effect is produced. Even dieting appears to sink in significance by the side of Codeine.—B.M.J. i./82,933.

In bladder troubles, complicated with enlarged prostate, Codeine is a useful sedative when other opiates fail.—B.M.J. i./84,802.

Useful for cough in tuberculosis of lungs and larynx. Single large doses more efficacious than double quantity given in divided doses. Does not produce vomiting, nausea, or constipation. Especially useful in intolerance of morphine.—Th. Gaz. 1890.388.

Codeine is a narcotic analogous to morphine, less active and free from injurious after-effects. In painful affections of abdominal and pelvic organs relieved pain and induced sleep, but in gastric ulcer and cancer of stomach less successful. Especially of service in diseases of respiratory organs, phthisis, pneumonia, and asthma.—Pr. xli.49; xliv.63; xlv.137.

**Apocodeinæ Hydrochloridum**, *v.p.*78.

# COLCHICINA.

## Colchicine.

*Dose.*—$\frac{1}{32}$ to $\frac{1}{16}$ grain (0·002 to 0·004 Gm.) in a ill.

The active principle of the meadow saffron, *Colchicum autumnale.* A yellowish micro-crystalline powder, oluble in water, alcohol and chloroform, slightly soluble n ether. It is a weak base, most of its salts being ecomposed by water It is the methyl ester of colchicëin, which crystallizes in white needles. Of use in acute gout, rheumatic gout, asthma, cerebral congestion, and uræmia.

In chronic rheumatism, apply hypodermic injections of $\frac{1}{32}$ grain in 15 minims of water.—M.T.G. i./77,463.

In neuralgic joint affections, and rheumatic ischiagra, $\frac{1}{32}$ gr. hypodermically injected succeeded.—Pr. xxiii.458.

Toxicological action—it affects the gastro-intestinal mucous membrane, causing severe pains in the bowels, of the nature of colic, vomiting, diarrhœa, intense thirst, and violent burning in the throat, œsophagus, and stomach.—B.M.J. ii./79,1024.

Report on its action as a diuretic, and purgative in larger doses.—B.M.J. i./87,688; L. i./86,369.

**Colchicine Salicylate.**—*Syn.* Colchi-sal.

*Dose.*—$\frac{1}{60}$ grain (0·001 Gm.).

A yellowish powder, soluble in water.

**Capsules of Colchicine Salicylate**

Contain $\frac{1}{250}$ grain Colchicine dissolved in methyl salicylate. Used in rheumatism and gout. *Dose.*—One every two hours.

# COLLODIUM.

**Collodion** (*Off.*).—*Syn.* CONTRACTILE COLLODION.

Pyroxylin 1, Alcohol (90 per cent.) 12, Ether (Sp. Gr. 0·735) 36. Keep from naked light. Pure ether answers better.

**Anodyne Colloid.**—*Syn.* AMYL COLLOID.

Amyl Hydride * 1 ounce, Aconitine 1 grain, Veratrine 6 grains, Collodion to 2 ounces.

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* *Syn.*—Pentyl Hydride; Pentylene; Hydramyl. Obtained by the fractional distillation of petroleum spirit. It

This formula is unsatisfactory; if half the quantity of amyl hydride be replaced by absolute alcohol a better preparation is obtained; or, the amyl hydride might be replaced by half its volume of amylic alcohol.

For neuralgia, sciatica, lumbago, all muscular pains, &c. The amyl by its rapid volatilization often produces almost instantaneously the desired result, but should the pain continue the alkaloids can be brought into activity by applying a piece of moist spongio-piline over the collodion film.—B.M.J. ii./72,677.

**Camphoid,** *v.p.* 124.

**Celloidin.** — Pyroxylin purified by solution in alcohol and ether makes a clearer solution especially adapted for embedding microscopical specimens and for surgical use.—B.M.J. i/96,968.

**Collodium Belladonnæ,** *v.p.*99.

**Collodium Cocainæ,** *v.p.*181.

**Collodium cum Oleo Crotonis.**

Croton oil 1 part mixed with 7 parts, more or less as required, of Flexible Collodion, forms a useful counter-irritant; a thin layer painted on quickly dries, and its action is limited to the spot to which it is applied.

**Collodium Flexile** (*Off.*).

Contractile Collodion 48, Canada Turpentine 2, Castor Oil (by weight) 1; makes a more elastic film than Contractile Collodion.

**Collodium Ichthyol,** *v.p.*287.

**Collodium Iodi.**

Iodine 1 (more or less if required) to 15 Flexible Collodion, forms a coating which, on account of the iodine not being so readily volatilized as from an application of the liniment, sustains the action of the iodine and the film protects the part.

Recommended for ringworm and alopecia.—B.M.J.E. i./93, 96; i./94, 3.

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is the lightest liquid of the petroleum series; Sp. Gr. 0·625 to 0·649, boiling point about 86° F. It is very inflammable; can be inhaled without irritation, and will produce general anæsthesia; locally, it is not absorbed, but rapidly freezes the part. Petroleum Spirit.—*Syn.* PETROLEUM ETHER (*Off.*). Has Sp. Gr. 0·67 to 0·7; is used for heating cauteries; varieties are known as Rhigolene and Ligroin.—L. i./85, 75,101; M.T.G. ii./71,373.492.

**Collodium cum Iodoformo.**—Iodoform, *v.p.*291.

**Collodium Peruvianum.**

Balsam of Peru 1, Collodion 9. Useful for small wounds.—P.J. ii./97,6.

**Collodium Salicylicum.**

Salicylic Acid 1, Flexible Collodion ($\frac{3}{4}$ strength) 5. For use on exposed parts like the next preparation.

**Collodium Callosum.**

Salicylic Acid 8, Extract of Indian Hemp 1, Flexible Collodion ($\frac{3}{4}$ strength) 60. Applied daily, this forms a rapid and painless solvent for corns and warts.—L.ii./83,951; B.M.J. ii./83,1071.

Is valuable as a pigment for lupus.—Pr. lii. 96. M.C., Sept. 94, 456.

The following more active preparation is similarly used; both preparations have proved useful in epithelioma.

**Collodium Salicylicum cum Zinci Chlorido.**

Salicylic Acid 2, Zinc Chloride 1, Collodion 15 Forms a clear solution. 1 of Zinc Chloride forms an imperfect solution in 6 of Collodion (with some chemical change).

**Mercuric Chloride** to the extent of 1 in 30 or more of Salicylic Collodion may be used to warts of a specific nature.

**Collodium Salicylicum et Lacticum.**

Salicylic and Lactic Acids, of each 10, Collodion 80. Lactic Acid, being destructive to morbid growths, is said to increase the efficacy of this preparation.

**Collodium Salol,** *v.p.*38.

**Collodium Stypticum.**—*Syn.* **Styptic Colloid.**

*Adopted by* B.P.C. Absolute Alcohol 10, Benzoin 1. Dissolve, strain, and add Tannic Acid 10, Ether (Sp. Gr. 0·72) 40, Gun Cotton 1. Mix, set aside two or three days, and decant. Useful in checking various forms of hæmorrhage when it can be brought in contact with the bleeding surface.

**Carbolic Colloid.**

Carbolic Acid 20 grains, Styptic Colloid 1 ounce. Readily soluble in anhydrous ether; solution on wool gives sufficient anæsthesia for many small operations. Gives relief in toothache.—Asclepiad, 1890, iv.335.

**Collodium Vesicans,** *v.p.*129.

## CONDURANGO CORTEX, P.G.

*Dose.*—In powder, 15 to 60 grains (1 to 4 Gm.).

The bark of *Gonolobus Condurango*, from Peru. Is bitter and acrid. Used as an alterative, and was a supposed specific for cancer, syphilis, and latterly for dyspepsia. Note on physiological action.—L. i./84,812; ii./86,31. Contains a glucoside Condurangin, a nerve poison.

**Extractum Condurango Liquidum. B.P.C.** 1 = 1. Bark in 60 powder exhausted with 60 per cent. alcohol. *Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).

**Infusum Condurango.** 1 in 20.

*Dose.*—½ to 2 ounces (15 to 60 Cc.)

**Vinum Condurango, P. G.** 1 in 10 Sherry (Marsala, P. Aus. Add.).

*Dose.*—½ to 1 ounce (15 to 30 Cc.) A valuable stomachic.

Condurango slightly helps digestion, but is quite unable to produce any lasting change in the stomach secretion. —B.M.J.E. i./92,36; M.C. Aug. 1892,330.

## CONINA.

**Conine.**—*Syn.* CICUTINE; CONICINE.

*Dose.*—¼ grain, increased gradually to 2 grains (0·016 to 0·13 Gm.).

A liquid alkaloidal principle, almost colourless, and having a penetrating empyreumatic odour, obtained from hemlock, *Conium maculatum.* It is slightly soluble in water. Has been prepared synthetically from *a*-Picoline. Commercial Conine has in combination two other principles, Conhydrine and Methyl Conine, which the following salt is free from.

**Coninæ Hydrobromidum.** Conine Hydrobromide.

*Dose.* —⅓ grain, increased gradually to 2 grains (0·02 to 0·13 Gm.).

In colourless crystalline prisms, resembling magnesium sulphate in appearance. Soluble in water, 1 in 2, nearly.

**Injectio Coninæ Hydrobromidi Hypodermica.** 1 grain in 20 minims.

*Dose.*—1 to 3 minims (0·06 to 0·18 Cc.).

**Pessus Coninæ** (Hosp. for Women).
Conine ½ minim, Gelatin Mass 20 grains.

**Pilula Coninæ Hydrobromidi.**
Conine Hydrobromide ⅓ grain (0·02 Gm.) in each.

**Vapor Coninæ. B.P.**, 1885.
Juice of Hemlock 4, Solution of Potash 1, Distilled Water 8. Put about 20 drops on the sponge of a suitable apparatus to inhale.

Conine is most suitable in acute mania without organic brain disease; ½ minim of Conine given hypodermically is equal to one drachm Succus Conii.—Rank. ii./72,119, *ex* West Riding Lunatic Asylum Med. Rep. vol. ii.

Hydrobromide of Conine is useful in neuroses and spasmodic affections of chronic bronchitis.—Pr.xxiii. 202,212. Traumatic tetanus cured.—Th. Gaz. 1888,330.

In epilepsy, dose of ¼ to 1½ grains recommended.—L. ii./84,32; Pr. xxxii.431.

Physiological action of the colourless Hydrobromide is like that of curare, but it does not act at all on the central nervous system like commercial liquid Conine; the latter contains two alkaloids.—L. ii./80,778.

Large doses, 2 to 4 drachms, of Succus Conii useful in chorea.—L. i./83,905.

Hydrobromide of Conine acts chiefly as a direct sedative to the respiratory centre; in poisonous doses death is caused by asphyxia. It is employed with advantage in all spasmodic affections, especially those of the respiratory organs; and in neuralgia commence with 1½ grains but not exceed 4½ grains per 24 hours.—Pr. xxviii.136.

**Extractum Conii Liquidum, B.P.C.**
*Dose.*—5 to 15 minims.

Conium Fruit is exhausted with alcohol 60 per cent containing 10 per cent. of acetic acid, the last portion of percolate concentrated and mixed with that first part set aside so as to produce a Liquid Extract which shall contain 1 per cent. of alkaloids.

**Succus Conii** (*Off.*) *Dose.*—5 to 15 minims (0·3 to 0·9 Cc.). Fresh Juice 3, Alcohol (90 per cent.) 1.

**Unguentum Conii, Hemlock Ointment** (*Off.*).
Hemlock Juice 88, evaporated under 140° F. to 11, Hydrous Wool Fat 33. Mix.

Gives relief in pruritus ani. For painful fissures, 10 or 12 grains persulphate of iron may be added.—Pr.xl.250; Th. Gaz., 1888, 395.

# CONVALLARIA MAJALIS.

## Lily of the Valley.

The flowers, as well as the whole plant of this, form an old remedy for dropsy in Russia. In functional and organic disease of the heart, an infusion of 10 grains in 6 ounces of water, of which half an ounce twice a day for two or three days lessens the irritability and peevishness. The effect will continue for from 5 to 9 days without producing dyspnœa or palpitation. Under this treatment the patient can take bodily exercise without discomfort.—Edin.M.J. xxvii.645; P.J. 1883,143,1058.

Two glucosides have been obtained from the plant: Convallarin, a purgative, *dose*, 3 to 4 grains; and Convallamarin, a heart tonic, *dose*, ½ to 2 grains.—P.J. 1882,423; L. ii./84,418; B.M.J.E. ii./91,142.

Convallamarin useful in preventing arrest of circulation in chloroform narcosis.—P.J. i./98,471.

**Extractum Convallariæ.** An aqueous extract.

*Dose.*—2 to 8 grains (0·13 to 0·52 Gm.).

**Extractum Convallariæ Fluidum, U.S.** 1 = 1 of flowers. Flowers preferred to root as latter contain little glucoside.—P.J. ii./99,622.

*Dose.*—2 to 10 minims (0·12 to 0·6 Cc.).

**Tinctura Convallariæ, B.P.C.**

*Dose.*—5 to 20 minims (0·3 to 1·2 Cc.): 1 of flowers in 8 of proof spirit.

Convallaria is a powerful diuretic, irregularity of heart's action is lessened, used in mitral and aortic regurgitation, dilatation of the heart, senile hypertrophy, chronic pericarditis, anæmia, and diabetes.—L. ii./82,327.

In all forms of heart failure it is useful, and has none of the nauseating effects of digitalis. It promotes a stronger ventricular contraction, and does not exhaust the contractility of the heart and arteries.—L. i./83, 185.

Convallaria of great service where there is actual valvular lesion, with insufficiency and dilatation of the right side of the heart, venous engorgement, and œdema. Should not be used where opposite conditions exist.—Pr. xxxii.265; B.M.J.E. ii./91,142; Th.Gaz. 1891,839.

Convallaria has special influence on nervous palpitation and tachycardia.—B.M.J. ii./92,1156.

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**Copabia,** *v.p.*361.

# COTO CORTEX.

## Coto Bark.

*Dose*, in powder, 1 to 8 grains (0·065 to 0·52 Gm.) 1 to 6 times a day.

Coto Bark, imported from Bolivia, has been used for diarrhœa, gout, and rheumatism. It is rich in resinous principles, which give it a pungent taste.

**Extractum Coto Liquidum.** 1 = 1 of bark.

*Dose.*—2 to 6 minims (0·12 to 0·35 Cc.).

**Tinctura Coto, B.P.C.**

Coto Bark, bruised, 1 ounce, Alcohol (90 per cent.) *q.s.* Macerate 7 days, press, filter, and add more Alcohol to produce 10 ounces.

*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.), with mucilage and syrup to suspend, every 2 hours, in diarrhœa.—P.J. 1875,301. **Mistura Anti-choleraica**, ii., *v.p.* 105.

In diarrhœa of phthisis, 5 to 8 minims of fluid extract of Coto found useful. Must not be combined with mistura cretæ.—Pr. xxiii.257.

Checks night sweats in incipient phthisis.—L. ii./81, 318; B.M.J. ii./81,727.

**Cotoin.** Obtained from Coto Bark.

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) every 2 or 3 hours in pill or diluted mucilage, for stomachic catarrh and chronic and phthisical diarrhœa, causes a reduction of the febrile symptoms and night sweats.

Cotoin is a pale yellow amorphous powder, or in minute curved crystalline prisms, non-volatile, slightly soluble in water, soluble in alcohol, ether, and chloroform, caustic and carbonated alkalis. It has a bitter taste, and the dust is irritating to the nostrils.

For hypodermic injection a solution 1 in 4 of acetic ether is recommended as having a specific action on the bowels in cholera, 15-minim doses to be given every quarter of an hour to every hour.—P.J. 1883,62.

No drug equal to Cotoin in the treatment of diarrhœa of all kinds, especially that of phthisis; it checks salivation and night sweats.—M.R. 1883,16; L. i./96,255.

**Fortoin.**—*Syn.* Methylenedicotoin.

*Dose.*—4 grains (0·25 Gm.).

A formaldehyde compound of Cotoin. A crystalline powder insoluble in water, sparingly soluble in alcohol.

Used for dysentery and phthisical diarrhœa.—B.M.J. i./00,1092; P.J. i./00,531.

**Paracotoin.** Obtained from Paracoto Bark, a bark allied to Coto Bark.

*Dose.*—1½ to 3 grains (0·01 to 0·02 Gm.) every 2 or 3 hours in chronic and acute stomachic catarrh and Asiatic cholera.

Paracotoin is in minute laminar crystals, paler than cotoin. Soluble in ether, chloroform, boiling alcohol, and somewhat in boiling water, but from this it separates on cooling. It appears to be a weaker Cotoin.

## COUMARINUM.

### Coumarin.

A neutral crystalline principle in colourless rectangular plates, may be obtained from Tonka or Tonquin beans, the fruit of *Coumaruna odorata*, is also found in the woodruff *Asperula odorata*, *Melilotus officinalis*, *Anthoxanthum odoratum*, &c., but it is now manufactured synthetically from Salicylol, or Salicylic Aldehyde. It is almost insoluble in cold, but readily soluble in hot water, dilute acids, and alcohol, has an agreeable aromatic odour, a burning taste, sublimes unchanged, and the vapour acts very strongly on the brain. 1 part to 50 of iodoform has been employed to disguise the odour of the latter.—Iodoform, *v.p.*290.

## CREOSOTUM (*Off.*).

**Creosote.**—*Syn.* KREOSOTE, CREASOTE.

*Dose.*—1 to 5 minims (0·06 to 0·3 Cc.), increased to 30 or even 60 minims, in capsules, or in cod liver, almond, or olive oil, or emulsified.

Obtained from wood tar, soluble in alcohol, chloroform, ether, glacial acetic acid, glycerin, fats and oils, and 1 in about 150 of water. Two kinds of genuine Creosote are met with in commerce—one from pinewood, which is anhydrous and mixes perfectly with oil of turpentine, consisting chiefly of creosol; and the other principally from beechwood, which contains guaiacol, and is more soluble in water. The latter is now made official. According to *Codex Supp.* a good creosote should contain 20 per cent. of guaiacol with 40 per cent. of creosol and 40 of monatomic phenols, which atter should contain about 15 per cent. of cresylols. It otates the plane of a ray of polarized light to the right not *left* B.P.), or is inactive (Umney).

Creosote, unlike phenol, mixed with an equal olume of collodion does not gelatinise. It acts ocally as a caustic. It is one of the most powerful eodorisers, antiputrescents, and antiseptics. It is sed to correct fetor, given to check sickness, added to od-liver oil for phthisis, and externally in various skin diseases.

For irritable trachea and congested larynx, causing roublesome cough, the dry inhalation of creosote from an oro-nasal or 'ozonic' inhaler is very useful.

**Haustus Creosoti.** Victoria Park Hosp.

*Dose.*—1 ounce (30 Cc.).

Creosote 5 to 30 minims, Compound Tincture of Gentian 15 minims, Alcohol (90 per cent.) 15 minims, Liquid Extract of Liquorice 30 minims, Water to 1 ounce.

**Mistura Creosoti** (*Off.*).

*Dose.* —½ to 1 ounce (15 to 30 Cc.).

Creosote 1, Spirit of Juniper 1, Syrup 30, Distilled Water 480. Contains 1 minim in an ounce, nearly.

**Oleum Morrhuæ cum Creosoto.**

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.). Contains 1½ per cent.

**Perles of Creosote.** 1 or 3 minims in each, with oil, also **Capsules**, 3 and 5 minims, or more, with oil.

**Pilula Creosoti** (Martindale).

*Dose.*—2 to 6 grains (0·13 to 0·4 Gm.).

Creosote 1, Curd Soap, in powder 1.

Put the Creosote in a wide mouth stoppered bottle, add the soap, and mix well. Then digest on a water-bath till they combine. Each 2 grains of the mass will contain, as nearly as possible, 1 minim of Creosote.—P.J. 1878,681.

The writer has found this mass the most convenient for giving Creosote in pills. It combines with other ingredients without decomposition. Calcined magnesia and slaked lime, sometimes recommended as excipients, form compounds with Creosote perfectly insoluble and indigestible. Care should be taken not to mix oxide of silver directly with pure Creosote, else deflagration will occur; but it may be mixed with the above mass, although it is not advisable to prescribe the two drugs together. P.G. iv. orders Creosote 10, Liquorice 19, Glycerin 1, made into pills of 15 centigrammes, containing about 1 minim of Creosote, and rolled in Cinnamon.

**Unguentum Creosoti** (*Off.*).

Creosote 1, Hard Paraffin 4, Soft Paraffin, white, 5.

**Unguentum Creosoti Forte, B.S.H.**

Creasote 6 drachms, Yellow Wax 180 grains.

Melt, and stir till cold. Used in psoriasis. **Caution.**—Should not be applied to the belly, face, or flexor surfaces of the limbs.

**Vapor Creosoti, T.H.**

Creosote 80 minims, Light Magnesium Carbonate 30 grains, Water to 1 ounce.

A teaspoonful in a pint of water at 140° F. Useful in chronic congestion of the larynx and trachea, and in ozæna, fetor of breath in bronchitis, gangrenous lung, and syphilitic throats.—B.M.J. ii./88,700.

Creosote lessens cough and expectoration in phthisis; 1 in 40 of rectified spirit, of this a teaspoonful twice a day; also in 1 or 2 minim doses in solution in cod liver oil or in troches with balsam of tolu.—Pr. xxii.380; Pr. xxvi.296; L. i./88.187; B.M.J. i./88,548; B.M.J.E. ii./91,166; i./94.227,340,560.

Saturation of system with creosote in tuberculosis recommended as result of 5,000 cases.—L. ii./89,336.

Unsurpassed in many cases as a curative agent in tuberculosis of the lung. Treatment must be continuous and extensive. Best results follow from greatest amount borne by patient. Best given in cod liver oil. Intra-pulmonary and inter-tracheal injections questionable, if not injurious.—L. ii./90,455; M.C. 1890, Sept. 493; 1891, Dec. 183; Pr. xlv.294; xlvi.454; xlviii.62; lii.47; B.M.J.E. ii./91,166; Th. Gaz. 1890.632.

Phthisis successfully treated by respiration of air saturated with creosote and eucalyptol under pressure.—L. i./91,963,1166; B.M.J. ii./91, 103; B.M.J.E. i./91, 142; Ed. M.J. 1891,268.

Useful in pills for diabetes.—L. i./89,702.

Of service in flatulent dyspepsia, $\frac{1}{2}$ minim with sodium bicarbonate after meals. If due to gastric atony, bismuth carbonate and pepsin, of each 2 grains may be added.—Th.Gaz. July, 1889,504.

Creosote treatment of tuberculosis should be begun rly; small doses useless. For scrofulous children, dose to 1 gramme daily.—B.M.J.E. ii./92,16.

In cases of phthisis may be given in drachm doses.—M.J. i./98,144,298; ii./98,1381,1383.

Case of poisoning by creosote—two doses of over ½ rachm taken within a short time. Recovery with no ll effects.—B.M.J.E. ii./92,4.

Creosote, either internally or by rectal injection, may e given in milk; mixes perfectly by shaking, and may e diluted with water.—P.J. ii /95,215.

Creosote externally applied an antipyretic in malarial ever.—B.M.J. i./96,18,1132.

Creosote vapour relieves gangrene of the lung.—B.M.J. i./99,532.

**Oro-nasal Inhalations.**—Creosote, or a mixture f equal parts of Creosote and Phenol, is employed o medicate respirators.

Used for antiseptic inhalation for phthisis dropped on respirator.—L. ii./77,598.

Creosote 3 parts with carbolic acid one part ropped on the cotton wool of the naso-oral respirator ecommended for continuous local medication in phthisis. —L. ii./80,870; Pr. xxix.94; B.M.J. ii./81,813.

Creosote used to medicate the respirator. It is more edative in its action if mixed with an equal volume of pirit of chloroform, 5 to 15 or 20 minims dropped on he cotton wool at one time.—B.M.J. ii./82,7.

**Solutio Creosoti Composita, Brompton H.**

Creosote 1, Spirit of Menthol (20 per cent.) 1, Spirit f Chloroform 1, for inhalation.

Also Vapor Iodi Ætherealis, *v.p.*303.

**Creosote Carbonate.**—*Syn.* CREOSOTAL. A clear ight-brown viscous liquid, almost odourless and taste-ess, insoluble in water, soluble in oils; is prepared from eech creosote, and contains the carbonates of guaiacol nd creosol. Is said to disagree less than creosote, and as been used in tuberculosis. Breaks up internally nto creosote and carbonic acid. *Dose.*—5 to 20 grains 0·32 to 1·3 Gm.).—P.J. 1893,686; B.M.J.E. i./96,15.

For phthisis—L. i./98,960. For bronchitis.—L. i./99,711. Pneumonia curable by.—L. i./01,646.

**Creosote Phosphate.**—*Syn.* PHOSOTE.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

The creosote ester of ortho-phosphoric acid, a yellowish oily liquid, with little odour, taste bitter, insoluble in water, soluble in alcohol. **Taphosote**—*dose*, 20 to 40 grains (1·3 to 2·6 Gm.) alone or in warm milk —the tanno-phosphoric-ester of creosote is stated to be useful in the treatment of a tuberculous condition accompanied by diarrhœa. It is a greyish syrupy liquid.—P.J. i/99,82.

**Creosote Phosphite,** Creosote - Phosphorous-Ether.—*Syn.* PHOSPHOTAL.

In glacial crystals, used as a substitute for Creosote.

**Creosote Valerianate.**—*Syn.* Eosote.

*Dose.*—4 to 12 grains (0·26 to 0·8 Gm.) in capsules. An oily liquid, soluble in alcohol and ether; checks gastric fermentation and used for phthisis epidermically.

**Oleocreosote,** a pale brown oily liquid, described as an oleic ether of creosote, of which it contains about one-third, is said to be easily assimilable. *Dose.*—10 to 30 minims (0·6 to 1·8 Cc.).—P.J. 1893,183.

**Creosoform,** a combination of creosote with formaldehyde, in greyish powder, is found to be a methylene derivative (of guaiacol). It combines with tannic acid.—C. & D. ii./99,818.

**Guaiaform,** a combination of guaiacol with formaldehyde, is a brownish-yellow powder.

**Guæthol.**—*Syn.* Ajacol. PYROCATECHIN-MONO-ETHYL-ESTER. An oily liquid, or purer in crystals resembling thymol or phenol, insoluble in water. Allays pain by direct application.—P.J. i./98,367,504b.

**Guaiaquinine,** obtained by action of molecular proportions of Guaiacol-sulphuric acid on quinine.—P.J. i./98, 544c.

**Guaiacol.** *Dose.*—1 to 5 minims (0·06 to 0·3 Cc.).

Medicinal Guaiacol is a colourless refractive liquid, and the principal constituent of beech creosote, but pure guaiacol is now prepared synthetically from pyrocatechin in colourless prismatic crystals melting from 83 to 91° F. Is given in dose of 1 to 5 grains in oily solution in capsules. The liquid contains a variable quantity of this substance.—B M.J.E. ii./93,16; P.J. 1894,730,541. The crystals, being more definite in composition, are to preferred to the liquid containing homologues whose edicinal action is unknown; but, the reputation btained by guaiacol having been created by the use of e liquid, the crystals are only dispensed when so ordered.

Both forms are soluble in alcohol, ether, fats, oils, and lycerin, and slightly in water, with taste and odour esembling, but more agreeable than, those of creosote. uaiacol is useful in phthisis, particularly in incipient tages, and rarely disagrees. It may be given thus: uaiacol 1 part, Water 180 parts, Alcohol (90 per cent.) 0 parts. *Dose.*—1 to 4 drachms in water twice or thrice aily, after meals. It may also be given in cod liver oil, hich disguises the taste, or the following:—Guaiacol 3·5, Tincture of Gentian 30, Alcohol (90 per cent.) 250, nd Sherry to 1,000; two teaspoonfuls two or three imes a day in water.

Guaiacol (Synthetic) 1, with Menthol 1, and Cam-horated Oil 30, used as an application for facial rysipelas; paint every two hours.—P.J. ii./00,650.

**Mistura Guaiacol, G.H.**

Guaiacol 4 minims, Alcohol (90 per cent.) 40 minims, Glycerin 30 minims, Oil of Cinnamon 1 minim, Water to 1 ounce.

**Perles of Guaiacol** contain 1, 2 or 3 minims, dissolved in oil. **Capsules** contain five minims.

Injections of Guaiacol 5 per cent., and iodoform 1 per cent., in sterilised olive oil,* recommended in tuberculosis; said to lessen cough and expectoration, diminish number of bacilli in sputum, favour cicatrisation of cavities, and lessen fever and night-sweats. *Dose.*—One, increased to three syringefuls (1 c.c. each).—B.M.J.E. i./91,85; ii./91,79,95; i./93,15,35; B.M.J. ii./91,1040; M.C. 1892, Jan. 249, April, 39; Th. Gaz. 1891,344,572; 1892,43. A dangerous state of collapse has followed hypodermic injection of guaiacol on several occasions.—L. i./98,222.

Subcutaneous injection of guaiacol has some local anæsthetic effect, but causes much smarting.—L.i./96, 160; P.J.ii./95,168.

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* Sterilised olive or almond oil, or liquid paraffin, intended for hypodermic injection, is prepared by heating it in a Pasteur's flask to 120° — 140° C. for 2 hours in a sterilising oven. It should be transferred into small bottles with aseptic precautions.

Both creosote and guaiacol can be tolerated in large doses, but smaller ones are equally advantageous; no advantage in hypodermic treatment over that by mouth; favourable results only follow continued use.—L. ii./92, 101.

Over 100 cases of pulmonary tuberculosis treated with guaiacol, internally and inhaled; results almost uniformly good.—B.M.J.E. ii./92,99. Also by absorption when painted over site of lung lesion.—P.J. 1895, 912.

Report on use of guaiacol by hypodermic injection for phthisis.—B.M.J. ii./95,1488; i./96,586.

As an antipyretic, about a drachm painted on the skin and covered with gutta-percha tissue.—Pr. lii.289,372; B.M.J. ii./94,6; M.C. Aug. 94,369; P.J. 1894,1008; B.M.J.E. i./95,76.

External applications of guaiacol dangerous when heart's action is weak; should be accompanied by cardiac tonics.—B.M.J.E. ii./95,36,103.

Orchitis, ointment of guaiacol with vaseline, 1 in 10, useful.—B.M.J.E. ii./95,56; P.J. ii. 95,471.

In typhoid, guaiacol internally and painted over abdomen useful.—P.J. ii./95,363.

Submucous laryngeal injections for tuberculous growths.—L. ii./97,1649; M.C. Dec.97,209; Y.B. 1898,156.

Phthisis, good results from large doses, 5 minims in capsules, up to 60 minims in glycerin emulsion, after meals, followed by a drink of milk.—L. i./98, 993.

**Guaiacol Benzoas,** Guaiacol Benzoate.—*Syn.* BENZOSOL. The benzoyl-ester of guaiacol.

*Dose.*—4 to 12 grains (0·26 to 0·8 Gm.) in cachet.

In small colourless crystals, almost tasteless and odourless, soluble in chloroform, ether, and hot alcohol, nearly insoluble in water. Is slowly saponified by the gastric juice, so that the guaiacol is liberated gradually, avoiding unpleasant taste and minimising irritation.—P.J. 1890,81; 1891, 81; Th. Gaz. 1891,699; 1892, 115. Useful in incipient phthisis, an agreeable and harmless substitute for creosote.—L. i./92,32; B.M.J. ii./91,1318.

**Tablets**, 5 grains. *Dose.*—1 or 2.

Useful for diarrhœa of tuberculous subjects.—Pr. li. 214.

Recommended in diabetes mellitus; may at first produce diarrhœa.—L. i./93,560; B.M.J.E. ii./93,95; M.C. Aug. 94,376; P.J ii./96,59.

**Guaiacol Cacodylate.**—*Syn.* CACODYLIACOL, *v.p.*85.

**Guaiacol Camphorate.** *Dose.*—5 to 10 grains in cachets or 5-grain tablets.

A compound of Guaiacol and Camphoric Acid, controls night-sweats and diarrhœa of phthisis.—C. & D.ii./99,122.

**Guaiacol Carbonas**, Guaiacol Carbonate.—*Syn.* DUOTAL.

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.), gradually increased, in cachets.

A white minutely crystalline substance, tasteless, and with slight odour, soluble in alcohol, insoluble in water. Contains 91·5 per cent. of guaiacol. Given in phthisis, improved appetite, increased weight, and lessened cough, expectoration, and night-sweats. Is unirritating to mucous membrane and digestive organs, being decomposed only on reaching intestine.—B.M.J.E. i./92,8; ii./93,84; P.J. 1892,812; L. ii./92,102; i./93,1456.

In typhoid 15-grain doses successful.—Am. M.S.B. 1893,865. Useful in bronchitis.—L. ii./99,711. Osteo-arthritis, good results in.—L. ii./00,773.

Phthisis, approved for.—L. i.98,960.

**Tablets**, 5 grains (0·32 Gm.).

**Guaiacol Cinnamate.**—*Syn.* **Styracol.**

*Daily dose.*—15 grains (1 Gm.).

In white granular crystals, insoluble in water. Recommended for intestinal phthisis.

**Guaiacol Phosphite.**—*Syn.* GAIACO-PHOSPHAL.

*Dose.*—6 to 10 grains daily (·04 to ·06 Gm.)

In white glistening crystals, soluble in alcohol, slightly so in water. Is recommended as a remedy for tuberculosis.

**Guaiacol-Salol**, Guaiacol Salicylate.

*Dose.*—15 to 75 grains (1 to 5 Gm.) daily in cachets.

In white shining crystals, insoluble in water. Useful in phthisis and as an intestinal antiseptic.

**Guaiacol Valerianas,** Guaiacol Valerianate. *Syn.* GEOSOTE.

*Dose.*—3 minims (0·18 Cc.) in capsule.

A liquid combination of guaiacol and valerianic acid, having the characteristic odour of the latter. Useful in tuberculosis and chlorosis.—P.J. i./97,425.

**Guaiacetin,** Sodium Pyro-catechin-mono-acetate. *Dose.*—8 grains (0·52 Gm.).

A carboxyl substitution product of guaiacol. A white powder, insoluble in water, used for tuberculosis like guaiacol carbonate. Said to cause no gastric disturbance.—P.J. ii./96,215,290; B.M.J.E. ii./96,11.

**Piperidinæ Guaiacolas,** Piperidine Guaiacolate.—*Syn.* GUAIPEROL.

*Dose.*—5 to 30 grains (0·32 to 2 Gm.).

A compound prepared by the action of piperidine on guaiacol, in granular colourless crystals with slight creosote odour, soluble 1 in 30 of water, freely in alcohol; solutions are decomposed by mineral acids and alkalis. Useful in phthisis; may be given in solution flavoured with chloroform or syrup of orange. Improved appetite and general strength; no unpleasant effects.—B.M.J. i./97,136; P.J. i./97,81; B.M.J. ii./98,154.

**Piperidinæ Tartras.**—*Syn.* PIPERIDINE ACID-TARTRATE. *Dose.*—15 grains (1 Gm.) three times a day.

Occurs in colourless pleasant-tasting crystals, readily soluble in water.

A powerful solvent of uric acid.—L. ii./98, 198; P.J. ii./99,876.

**Thiocol** Potassium-guaiacol-sulphonate.

*Dose.*—15 grains (1 Gm.) thrice daily.

In odourless white crystals, soluble in water. Contains about 60 per cent. of guaiacol; is stated to be one of the best preparations for employment in phthisis and similar diseases which require the creosote or guaiacol treatment. As much as 10 or 15 grammes may be given in 24 hours without ill effect.—P.J. i./99,28; L. i./99,240; Therap. 1901,19.

Infantile tuberculosis, good results.—B.M.J.E. i./01,16.

## CUBEBA.

### Cubebs (*Off.*).

*Dose.*—30 to 60 grains (2 to 4 Gm.) in cachets.

The dried unripe full-grown fruit of *Piper Cubeba.* The genuine—imported from Java—give a crimson colour ith strong sulphuric acid, and are free from mace-like taste and odour.—P.J. 1892,771,121.

**Cigarettes** of the powder are useful for catarrh and xcessive bronchial secretion. It is sometimes added to Ferrier's Snuff (*v.p.*106), and is an ingredient of the American specialty, Brown's Troches. Cubebs contain **Oleum Cubebæ**, *dose* 5 to 20 minims (0·3 to 1·2 Cc.), **Cubebin**, in small white needles, and **Cubebic Acid,** non-crystalline resin, occurring in white powder, which has been recommended for gonorrhœa, in doses up to 15 grains (1 Gm.). These are all contained in

**Oleo-resina Cubebæ** (B.P. 1885).
*Dose.*—5 to 30 minims (0·3 to 1·8 Cc.).

**Tinctura Cubebæ**, 1 in 5 Alcohol (90 per cent.), *Off.*). *Dose.*—$\frac{1}{2}$ to 2 drachms. Recommended as an expectorant, taken in linseed tea.—L. i./90,569.

**Trochisci Cubebæ, T.H.** Contain $\frac{1}{2}$ grain each, with fruit paste. *Dose.*—1 every 3 or 4 hours.

## CUCUMIS.

**Cucumber.**—The juice of the fruit of *Cucumis sativus,* is in French Codex to prepare:—

[**Unguentum Cucumeris.**—*Syn.* POMATUM CUM SUCCO CUCUMERIS SATIVI; Fr. POMMADE AUX CONCOMBRES.

Cucumber Juice 1200, Lard 1000, Veal Suet 600, Balsam of Tolu in S.V.R. *q.s.*, 2, Rose Water 10. F.s.a. Is a cooling ointment, used like cold cream.

## CURARA.

**Curare.**—*Syn.* OURARI, URARI, WOURARA, WOURALI.
*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

The South American Indian arrow-poison, produced from species of *Strychnos* and other plants. A blackish-brown coloured, dry extract, with a bitter taste; contains some resin, but is nearly all soluble in water.

**Curarina, Curarine.** *Dose.*—$\frac{1}{400}$ to $\frac{1}{40}$ grain (?).

This, the active principle of Curare, is a most powerful poison, in yellowish-brown powder or deliquescent prisms, with an intensely bitter taste, soluble in water and alcohol, the latter solution being slightly fluorescent. Is not alkaline in reaction, and forms no true salts. In toxicological research, Curarine, like strychnine, with sulphuric acid and potassium bichromate, is coloured first blue, then violet, and later on cherry-red. but the transition is slower than with strychnine; sulphuric acid alone imparts a red colour to solutions containing Curarine, it has no effect on strychnine. The physiological test for Curarine is more valuable.—B.M.J. ii./79,1025.

It is said to exercise no marked physiological action if swallowed (?), but acts as a muscular paralyser if injected subcutaneously.

Curarine should be used for physiological or therapeutic purposes—curara being a generic name for various poisons. Notes on a new kind of curara—paralyses heart and muscles.—P.J. 1893.344.

Pharmacological research on.—P.J. 1890,893,471; L. i./91,46.

**Injectio Curare Hypodermica, B.P.C.**

*Dose.*—1 to 6 minims (0·06 to 0·35 Cc.).

Curare, in powder, 5 grains, Distilled Water, a sufficient quantity. Add to the Curare distilled water *q.s.* to form a thin paste, transfer to a funnel plugged with absorbent wool, and gradually add more water until one drachm is obtained.

If required in haste, to the five grains of Curare reduced to powder add one drachm of distilled water, throw on a filter, and when the liquor ceases to drop pour over the contents of the filter distilled water sufficient to produce one drachm.

**Hypodermic Lamels** are also prepared, containing $\frac{1}{400}$ grain Curarine in each combined with Gelatin; also with $\frac{1}{20}$ grain of Curare.

Used to paralyse muscular movements in experiments on biliary secretions of dog, in dose of from 0·02 to 0·06 gramme of Curare.—Pr.xxiii.327.

In hydrophobia, a case cured by $\frac{1}{3}$ to $\frac{1}{2}$ grain, hypodermically, repeated about every half-hour, as required, to allay the spasms, until these ceased entirely, and paralysis of all voluntary movements became apparent.—M.T.G. ii./77,396.

Its botanical sources and varieties.—P.J. 1880-81,491, 529,589,693,754.

Its use as a palliative in hydrophobia.—L. ii./81,624.

Cases of tetanus treated by hypodermic injections of Curare. To adults, 4 grains may be exhibited at intervals in the 24 hours, without danger to life.—Dub. Jour. Med. Sci. 1882,307.

Curare prophylactic to strychnine poisoning; also removed tetanus caused by strychnine.—P.J. i./96,133, 298.

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## CYPRIPEDIN.

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.), in pill.

The dried extract of the root of *Cypripedium pubescens*, Ladies' Slipper. It has a snuff-brown colour, and is given in nervous affections, hysteria, hypochondriasis, and is said to be useful in epilepsy.

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## DAMIANA.

The leaves of *Turnera microphylla* and *T. aphrodisiaca* are recommended in the United States as possessing aphrodisiac properties.

**Extractum Damianæ Liquidum, B.P.C.** 1=1.

Leaves in 60 powder exhausted with alcohol 60 per cent. *Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

**Extractum Damianæ.**

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.). Is prepared by concentration of the above.

**Pilula Damianæ Composita.**

Extract of Damiana 2, Phosphorus $\frac{1}{100}$, Extract of Nux Vomica $\frac{1}{6}$. In grains for 1 pill, in grammes for 15. *Dose.*—One, two or three times a day.

Damiana is a nerve tonic of great value in sexual debility; useful also in hemiplegia and paraplegia.—Pr. xxiv.58.

Botanical source and history.—P.J. 1875,423,493,581.

For cases of melancholia this drug is found to be of service.—L. ii./87,604.

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## DATURINA.

### Daturine.

*Dose.*—$\frac{1}{120}$ to $\frac{1}{60}$ grain (0·0005 to 0·001 Gm.) increased to $\frac{1}{16}$ or more, in solution with diluted sulphuric acid.

*Datura Stramonium* yields this alkaloid, which is indistinguishable from hyoscyamine in its chemical and physiological properties, *v.p.*88.

**Daturinæ Sulphas.**—Daturine Sulphate.

*Dose.*—$\frac{1}{120}$ to $\frac{1}{60}$ grain (0·0005 to 0·001 Gm.). Minute, white, granular crystals, readily soluble in water.

**Guttæ Daturinæ, R.O.H.** Half per cent.

**Ophthalmic Discs** contain $\frac{1}{5000}$ grain of Daturine Sulphate in each, combined with Gelatin.

In acute mania it acted like hyoscyamine and atropine in producing sleep.—R., Pr. xviii.166.

## DELPHINA.

*Syn.* DELPHIA, DELPHINE.

*Dose.*—$\frac{1}{4}$ to $\frac{1}{2}$ grain (0·016 to 0·032 Gm.) in a pill.

A white or brownish white amorphous alkaloid obtained from seeds of stavesacre, *Delphinium Staphisagria*, and of larkspur, *Delphinium Consolida*. Almost insoluble in water, soluble in alcohol, ether, and dilute acids. It is a heart poison.

Has been given internally in doses as above, in dropsy and spasmodic asthma. Locally, an alcoholic solution or ointment, containing 2 to 8 per cent., causes tingling and transient redness like veratrine; useful in neuralgia, earache, and toothache.

**Oleum Staphisagriæ,** expressed from the seeds.

One to 6 or 12 parts of perfumed olive or almond oil effectually kills pediculi of all kinds. Remove nits with a mixture of vinegar and proof spirit.—M.P.C. ii./85,551.

**Unguentum Staphisagriæ** (*Off.*). — Stavesacre Seeds, crushed, 4, Benzoated Lard 35, heat on a water-bath for 2 hours, strain and press through calico, add Yellow Beeswax 4; dissolve by heat and stir until cold.

## DIGITALIS FOLIA.

### Digitalis Leaves (*Off.*).

*Dose.*—$\frac{1}{2}$ to 2 grains (0·032 to 0·13 Gm.).

The dried leaves of *Digitalis purpurea*, or foxglove, are used to lessen fever and acute inflammations, also in heart disease with rapid weak pulse, and for cardiac dropsy, for internal hæmorrhages, delirium tremens and spermatorrhœa.

**Infusum Digitalis** (*Off.*). About 1 in 146.
*Dose.*—2 to 4 drachms (7 to 15 Cc.).

**Infusum Digitalis Concentratum, B.P.C.**
*Dose.*—15 to 30 minims.

Leaves in 20, powder 480 grains are thrice macerated with 15 ounces of water, and after each maceration pressed; first pressings of 10 ounces mixed with 5 ounces of alcohol (90 per cent.); the remainder concentrated to 5 ounces and mixed with that set aside. Is 3 times strength of above. A good medicinal preparation.

**Succus Digitalis, B.P.C.**
Expressed Juice, 3; Alcohol (90 per cent.), 1.
*Dose.*—5 to 10 minims (0·3 to 0·6 Cc.).

**Tinctura Digitalis** (*Off.*). 1 in 8 of 60% alcohol.
*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

**Pilula Digitalis Composita** (Baillie's Pill).—**St. George's Hosp.**

Mercurial Pill 2, Digitalis Leaves $\frac{1}{2}$, Squill 1. In grains for one pill; in grammes for fifteen.
*Dose.*—1, as often as 3 times a day.

**Pilula Hydrargyri et Digitalis Composita.** **St. Bart.**

Mercurial Pill 1 grain, Digitalis 1 grain, Squill 1 grain, Extract of Henbane 2 grains.

Digitalis leaves and seeds contain at least three well-defined principles:—Digitoxin, Digitin (Digitalin cryst., Merck), and Digitonin.—P.J. ii./95, 29, 120; ii./96, 289; ii./97, 62, 283.

*Digitaline Amorphe* (Codex). *Syn.* Chloroformic Digitalin.
*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

This, the 'Digitaline,' of Homolle, is met with in commerce as an amorphous yellowish-white powder, or small scales, inodorous but irritating to the nostrils, intensely bitter, and poisonous. It is insoluble in water, but soluble in alcohol and chloroform, and consists principally of a glucoside resembling digitoxin in its action. Being of uncertain composition is falling into disuse.

**Granules de Digitaline** (Homolle) contain 1 milligramme ($\frac{1}{65}$ grain). *Dose.*—1 or 2.

*Digitaline Cristallisée* (Codex). Nativelle's Digitaline.

*Dose.*—$\frac{1}{250}$ to $\frac{1}{60}$ grain (0·00025 to 0·001 Gm.), in pill.

Is in light, white crystalline tufts of needles, very bitter; insoluble in water, nearly insoluble in ether, soluble in chloroform and alcohol. It consists almost entirely of Schmiedeberg's digitoxin, is cumulative in its action, and very potent; should be prescribed as Digitaline, crystallized (Nativelle).

*Granules de Digitaline Cristallisée* contain $\frac{1}{4}$ milligramme in each.

*Soluté Officinal de Digitaline Cristallisée.* Crystallized Digitaline 1, Glycero-alcohol *q.s.* to measure 1,000.

*Dose.*—4 to 16 minims (0·25 to 1 Cc.).

**Digitoxin** (Schmiedeberg).

*Dose.*—$\frac{1}{250}$ to $\frac{1}{60}$ grain (0·00025 to 0·001 Gm.).

The most active of the digitalis principles, in minute white crystals, soluble in chloroform, alcohol, and, sparingly, in ether, insoluble in water. Is irritating to the skin and mucous membrane, and although by Bardet thought less definite than Nativelle's digitaline, it is probably the preparation best suited for medicinal use. Both are doubtless active, and are now found to possess the principal therapeutic properties of digitalis. The recent chemical and therapeutic investigations of different workers tend to point to Digitoxin as the active principle; this is contained in greater proportion in the leaf than in the seed, and it has been suggested that the value of digitalis leaves and preparations should be determined by the amount of Digitoxin they contain.—P.J. ii./97,62,283.

**Digitalinum Purum** of German commerce. *Dose.*—$\frac{1}{64}$ to $\frac{1}{32}$ grain (0·001 to 0·002 Gm.) consists, according to Merck, of the glucosides Digitin and Digitonin with the so-called Digitalein (Schmiedeberg) and Digitalinum Verum (Kiliani). It is a yellowish-white powder soluble in water and alcohol, nearly insoluble in chloroform. Is active, 1 part = about 70 of Tincture.—Amer. Jour. Med. Sci. cxx./2.165. *Is most suitable for hypodermic injection.*

**Digitalinum Crystallisatum** (Merck), *syn.* Digitonin (Schmiedeberg), and **Digitalinum Verum** (Kiliani) are glucosides possessing little medicinal or physiological activity.—P.J. 1892, 1061; ii./95, 29, 120.

**Hypodermic Tablets**, $\frac{1}{100}$ grain (0·00065 Gm.).

**Digitalein** (Schmiedeberg) proves to be a soluble mixture of indefinite composition.

**Digitoxin**, crystallized, as prepared by Merck, is soluble about 1 in 100 of absolute alcohol.

Owing to its insolubility in water, and this being prone to develop fungi, an aqueous vehicle is inadmissible for the administration of digitoxin; the best method is in solution in Glycero-alcohol (1 in 1000, *dose* 4 to 16 minims [0·25 to 1 Cc.]—this may be given by mouth, or by hypodermic injection, or enema), or in Syrup (Digitoxin 0·1, Alcohol [90 per cent.] 200, Distilled Water 750, Syrup to 2500. *Dose.*—1 to 4 drachms [3·5 to 15 Cc.]).

*Compressed Tablets* and *Granules* of Digitoxin are prepared containing $\frac{1}{250}$ grain ($\frac{1}{4}$ milligramme).

### *References to Digitalins.*

Experiments with Digitalin (Homolle). Is 120 times as strong as Digitalis, given in delirium tremens in doses of $\frac{1}{80}$ to $\frac{1}{30}$ grain.—M.T.G. i./55,382; ii./61,106.

Case of poisoning by, with recovery.—L. i./80,166.

Use in heart disease.—B.M.J. ii./71,148.

Antagonism to aconitine.—B.M.J. Rep. 1877,89.

Is an irritant to the skin, mucous membranes, hypodermically, and even to the stomach; produces diuresis only in dropsies due to disorders of circulation. Small doses slow the pulse and increase cardiac energy.—L. ii./84,25.

Treatment of first stage of pneumonia by large doses recommended. M.C. May, 1893,119.

Comparative toxicity of the members of the digitalin group.—B.M.J.E. ii./96,55.

General summary of physiological action and therapeutic effects of digitalis. Its effects and that of its active principles, are, that they regulate the heart's action, assist a failing circulation and act as diuretics. It is most valuable in mitral incompetence.—B.M.J.E.i./00,52.

Acute poisoning and recovery of a child of two years, after Nativelle's granules.—B.M.J. i./01,338.

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## DUBOISINÆ SULPHAS.

**Duboisine Sulphate.**

*Dose.*—$\frac{1}{120}$ to $\frac{1}{30}$ grain (0·0005 to 0·002 Gm.).

Obtained from the leaves of *Duboisia myoporoides;* is usually met with in amorphous whitish granules, very hygroscopic. Although first stated by Ladenburg (Berichte xiii.257) to consist of hyoscyamine, a sample of commercial Duboisine last examined by him (Ber. xx. 1661), was found to be identical with hyoscine,* *v.pp.* 88, 281). It is much more powerful physiologically than hyoscyamine.

**Guttæ Duboisinæ Sulphatis R.O.H.** 0·25 in 100.

**Ophthalmic Discs** are prepared containing $\frac{1}{5000}$ grain of Duboisine Sulphate combined with gelatin.

Physiological action. It dilates the pupil, dries the mouth, checks perspiration, causes headache and drowsiness, antagonises muscarine, on the eye it acts more promptly than atropine.—L. i./78,304; L. ii./79,441; i./87,75.

Eight cases of toxic symptoms, giddiness, delirium, and dryness of the mouth from use of eyedrops 4 grains to the ounce.—L. ii./79,353; B.M.J.E. i./93,72.

Résumé of its physiological properties.—L. ii./81,806; B.M.J. ii./81,529; Trans. Med. Congress, 1881,i.511; Pr. xxv.294.

Recommended as a sedative in mania and hystero-epilepsy.—B.M.J.E. i./93,15,27,36,48; ii./93,76,84; L. i./97,334; M.C. April '97,63. And for paralysis agitans.—M.C. Oct.1892,46; Feb.1893,394; P.J. i./97, 118.

*Duboisia Hopwoodii* yields Pituri (or Pitchery) containing a volatile alkaloid Piturine, not a mydriatic, but closely allied to nicotine.—P.J. 1873,184; 1881,815.

## ELÆOSACCHARA, P.G.

This term is applied to triturations of volatile oils with sugar. They are made of the strength of 1 part by weight of the oil to 50 of sugar, or approximately 2 drops to 60 grains, and should be prepared as required.

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* Some manufacturers say the former is correct and that duboisine, obtained as a brown thick liquid, forms a sulphate corresponding in all respects to hyoscyamine sulphate. They obtain hyoscine from the mother-liquor, not only of duboisine sulphate, but also of hyoscyamine sulphate, which they prepare from belladonna root.—P.J. 1890,709; C. & D. i./90,262. According to Schmidt, the leaves yield at times principally hyoscyamine, at others almost entirely hyoscine, or, rather scopolamine.—P.J. 1892, 1024, *v.pp.*281, 283.

hose mostly in use are those of anise, cinnamon, itron, and peppermint. They are used to disguise he flavour of nauseous powders, that of cinnamon as a orrective with bismuth particularly.

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## ELATERIUM.

### Elaterium (*Off.*).

*Dose.*—$\frac{1}{10}$ to $\frac{1}{2}$ grain (0·0065 to 0·032 Gm.).

The dried sediment from the juice of *Ecballium Elaterium.*

Is a powerful hydragogue cathartic, useful in renal r cardiac disease complicated with dropsy.

**Tinctura Elaterii Composita.**

*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.).

Elaterium in powder 1, Chloroform 50, macerate 2 days, then add Alcohol (90 per cent.) 200, and Compound Tincture of Cardamoms 250, macerate 5 days more and filter. Is more active than a corresponding dose of the powder.

**Elaterinum,** Elaterin (*Off.*).—*Syn.* MOMORDICIN.

*Dose.*—$\frac{1}{40}$ to $\frac{1}{10}$ grain (0·0016 to 0·0065 Gm.).

The neutral active principle of Elaterium, is in colourless, hard, hexagonal tables, insoluble in water, soluble in chloroform and sparingly in alcohol.

**Pulvis Elaterini Compositus** (*Off.*).

*Dose.*—1 to 4 grains (0·065 to 0·32 Gm.).

Elaterin 1, Milk Sugar 39. This is a Trituration, *v.p.*463.

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## ELIXIRS.

These are generally composed of a weak-flavoured syrup, with a fair proportion of alcohol, which latter may account for much of the esteem in which they are held.

**Elixir Acidum,** *v.p.*40.

**Elixir Aromaticum, Aromatic Elixir, U.S.**

Compound Spirit of Orange, U.S. 12, Deodorised Alcohol to 250. Add gradually, with constant agitation, Syrup 375, and then Distilled Water 375. Mix with the liquid Precipitated Calcium Phosphate 15, and filter until clear; then add a mixture of Deodorised Alcohol 1 and Distilled Water 3 *q.s.* to 1000. (*Spiritus Aurantii Compositus,* U.S. Oil of Orange Peel 40, Oil of Lemon 10, Oil of Coriander 4, Oil of Anise 1, Deodorised Alcohol to 200).

*Dose.*—$\frac{1}{2}$ to 2 drachms (1·8 to 7 Cc.).

**Elixir Simplex, B.P.C.,** 1894.

Oil of Bitter Orange 30 minims, Rectified Spirit 6 ounces. Dissolve and add, Distilled Cinnamon Water 7 ounces, Syrup 7 ounces. Filter through paper moistened with proof spirit, and well sprinkled with kaolin, returning the first portions of filtrate until it passes through bright.

*Dose.*—20 minims to 1 drachm. This quantity may be added to the ounce of any liquid medicine.

**Syrupus Aromaticus** (*Off.*).

*Dose.*—$\frac{1}{2}$ to 1 drachm (1·8 to 3·5 Cc.).

Tincture of Orange 1, Cinnamon Water 1. Mix. Shake with a little powdered talc, filter and add Syrup 2.

**Elixir Bismuthi.**

*Dose.*—1 drachm (3·5 Cc.).

Bismuth Citrate 1, Distilled Water 6, Solution of Ammonia $\frac{3}{4}$, or more if needed to dissolve the bismuth. Dissolve, filter, and add Simple Elixir *q.s.* to 30.

**Elixir Camphoræ,** *v.p.*123.

**Elixir Camphoræ Monobromatæ,** *v.p.*125.

**Elixir Cascara Sagrada,** *v.p.*133.

**Elixir Cinchonæ.**

Liquid Extract of Cinchona 1, Simple Elixir 7. Mix and filter. *Dose.*—$\frac{1}{2}$ to 1 drachm (1·8 to 3·5 Cc.).

**Elixir Ferri Phosphatis cum Quinina et Strychnina,** *v.p.*246.

**Elixir Guaranæ.**—Guarana, *v.p.*261.

**Elixir Papain,** *v.p.*367.

**Elixir Paraldehydi,** *v.p.*59.

**Elixir Phosphori.**—Phosphorus, *v.p.*378.

**Elixir Rhei, B.P.C.**

*Dose.*—1 to 3 drachms (3·5 to 10·5 Cc.).

Rhubarb in No. 12 powder 5, Fennel (bruised) 2, Glycerin 3, Sugar 4, Diluted Spirit (1 S.V.R. to 3 Aq.) *q.s.* to 20.

Moisten the rhubarb and fennel with diluted spirit 15, macerate 48 hours and press. Break up the mass and add more menstruum *q.s.* to produce, after macerating

4 hours and pressing, 15, with the former liquor. After ain standing 2 days filter into the glycerin and sugar nd dissolve without heat.

**Elixir Rubrum.**

*Dose.*—20 minims to 1 drachm (1·2 to 3·5 Cc.).

Solution of Carmine (p. 120) 1, Simple Elixir 64. Gives an agreeable flavour and colour to liquid medicines, ut it is not compatible with acids.

**Elixir Saccharini,** *v.p.*425.

**Elixir Sennæ, B.P.C.**

*Dose.*—1 to 3 drachms (3·5 to 10·5 Cc.).

Moisten Alexandrian senna 16 ounces, with 4 ounces of rectified spirit mixed with 12 ounces of water, pack ightly in a closed vessel, macerate for 3 days, and ress. Repeat with sufficient of the same menstruum o give, in all, 16 ounces of liquor. Add this to sugar 12 ounces, and heat in a closed vessel to 200° F. After en minutes, cool, strain, and add, previously mixed, Chloroform 24 minims, Oil of Coriander 2½ minims, Tincture of Capsicum ½ drachm, Rectified Spirit 3 rachms, adding proof spirit, if necessary, *q.s.* to 24 ounces.

In this preparation the **Cathartic Acid**, a glucoside contained in senna, not being subjected to long exposure o heat, is preserved from oxidation; if isolated, it is ometimes prescribed in doses of 4 to 8 grains in pills ut it is very unstable.

**Mistura Sennæ Composita.**—*Syn.* Black Draught (*Off.*).

*Dose.*—1 to 2 ounces (30 to 60 Cc.).

Magnesium Sulphate 5, Liquid Extract of Liquorice 1, Compound Tincture of Cardamoms 2, Aromatic Spirit of Ammonia 1, Infusion of Senna, *q.s.* to 20.

**Syrupus Sennæ** (*Off.*).

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

Is prepared by three macerations with 20 per cent. alcohol, concentrating the product, and heating to 180° F. for a few minutes, then filtering and adding Sugar and Oil of Coriander.

**Syrupus Sennæ cum Manna. P. Aus. Add.**

*Dose for Infants.*—½ to 1 drachm (1·8 to 35 Cc.).

Tinnevelly Senna, cut, 35, Bruised Star Anise 2, macerate 12 hours in cold Water 350; in strained liquor 250, dissolve Sugar 400, Manna 50. Boil to a Syrup.

**Extractum Sennæ Leguminorum Liquidum, B.P.C.** *Dose.*—1 to 2 drachms.

Senna Pods 16 ounces, bruised, are repeatedly macerated with a mixture of Alcohol 90 per cent. 6 ounces, and Water 12 ounces, pressing after each maceration, to produce 16 ounces.

**Elixir Ficorum.** — *Syn.* **Syrupus Ficorum. Elixir or Syrup of Figs.**

*Dose.*—1 to 4 drachms at bedtime or early morning.

Figs cut very small 32 ounces, add Distilled Water 90 ounces, stew at a gentle heat for one hour, then boil and add Senna 16 ounces; digest in a covered vessel for 2 hours; then press slowly and forcibly so as to obtain 52 ounces of liquid; break up and again digest the marc in Boiling Water 20 ounces for 2 hours and press. Mix the Liquors obtained, boil for 3 minutes and when cold add Alcohol (90 per cent.) 9 ounces; agitate gently, set aside 2 hours, and filter. Wash the filter, evaporate or recover the Alcohol by distillation, and concentrate the filtrate to 56 ounces, and in it dissolve Sugar (made warm) 40 ounces. Mix Oil of Peppermint 5 minims, Oil of Cloves 20 minims, Chloroform 25 minims, Alcohol (90 per cent.) 150 minims, and add this to the Elixir with agitation. The product should measure 80 ounces.

**Elixir Vitrioli,** *v.p.*40.

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## EMBLICÆ FRUCTUS.

## Emblic Myrobalan Fruit.

*Dose.*—One, two, or more as required. The taste of the pulp is very agreeable.

The fruit preserved in syrup, or crystallised in sugar, of *Myrobalanus emblica, Emblica officinalis,* Nelli, or Nilicamam. Used in India to excite the appetite, and taken after meals for atonic dyspepsia. In the fresh state, the fruit consists of a fleshy, acidulous pulp enveloping an angular nut. The pulp is rather austere, and is possessed of purgative properties.

The fresh juice is cooling, diuretic, and laxative. The confection promotes the appetite, and acts as a tonic. - Dutt's Hindu Materia Medica.

Tried carefully in several cases of habitual constipation; is a valuable addition to our list of laxatives. It may be taken at dinner or dessert. It is most valuable for children.—B.M.J. ii./82,173; i./96,346; L.i., 96,557.

**onfectio Emblicæ.**
The preserved fruit, pulped and freed from nuts, &c.
*Dose.*—1 or 2 teaspoonfuls.

**rystallized Emblic Fruits** (dry).
*Dose.*—One, two, or more.

**lack or Chebulic Myrobalans,** *v.p.* xxviii.

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## ERGOTA.

**rgot of Rye** (*Off.*).—*Syn.* SECALE CORNUTUM.
*Dose.*—20 to 60 grains (1·3 to 4 Gm.) in recent owder infused in boiling water.

**xtractum Ergotæ Liquidum** (*Off.*). 1 = 1 of Ergot.
*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.) or more.

**nfusum Ergotæ** (*Off.*) 1 in 20.
*Dose.*—1 to 2 ounces (30 to 60 Cc.).

**inctura Ergotæ** (B.P. 1885). 1 in 4.
*Dose.*—5 to 30 minims (0·3 to 1·8 Cc.) or more.

**cidum Scleroticum,** *v.p.* 227.

**ornutine** (Kobert). *Dose.*—$\frac{1}{6}$ grain (0·01 Gm.) daily.
A brownish-grey amorphous alkaloid contained in rgot, very slightly soluble in water. Is said to be an fficacious hæmostatic in hæmorrhage from genito-rinary organs. Raises blood-pressure, but does not ause gangrene. The **Hydrochloride,** in brown cales, is more soluble. *Dose* of either—$\frac{1}{6}$ to $\frac{1}{4}$ rain daily, in divided doses.—L. i./92,766; B.M.J. /92,500. Has proved effective in spermatorrhœa.

Cornutine the most certain uterine contractor. P.J. 1895,1055.

**Extractum Ergotæ** (*Off.*). *Syn.*—ERGOTINE.
*Dose.*—2 to 8 grains (0·13 to 0·52 Gm.).

Ergot, in No. 40 powder, 1000, is exhausted with 60 per cent. alcohol, and the percolate evaporated to 250. To this is added Distilled Water 250, the mixture filtered, Diluted Hydrochloric Acid 47, added, and after twenty-four hours again filtered, Sodium Carbonate 20, added, and the mixture evaporated to a soft extract.

It is given to check all forms of passive hæmorrhage.

**Tablets,** 3 grains (0·2 Gm.). *Dose.*—1 to 3.

*The Ergotins of Commerce.* Note on Bonjean's varieties, Bombelon's and Denzel's, Kohlmann's, Wernich's, Wiggers', Yvon's.—Merck's Rep. 1899,64.

**Injectio Ergotæ Hypodermica** (*Off.*).

*Dose.*—3 to 10 minims (0·18 to 0·6 Cc.).

Extract of Ergot 10, Phenol 0·3, Distilled Water, *q.s.* to 30. Should be freshly prepared.

**Hypodermic Lamels** are also prepared containing $\frac{1}{2}$ grain (0·032 Gm.) of Ergotin combined with gelatin.

Epistaxis—hypodermic injection into the arm, of 3 grains in 10 minims of warm water, is found of the greatest success.—Br. i./75,308; B.M.J. ii./93,1277.

Epistaxis occurring in the course of a case of trichinosis, Ergotin used as a styptic, also suggested to be used as a killer of the trichinæ.—Pr. xxi.462.

A dose of Ergotin, injected deeply into the gluteal muscles just before delivery, seldom fails to give perfect uterine contraction.—Br. i./81,lxviii.

Ergotin causes spasm of arterioles and rise of blood pressure, by acting directly on the vessels independently of the central nervous system.—B.M.J. i./84,97.

Useful in polyuria.—B.M.J. ii./88,845; Pr. xli.452.

Neither ergot nor iron will induce abortion in pregnant women unless previously disposed (Lombe Atthill).—B.M.J. i./89,350.

Menorrhagia controlled by continued use of ergot.—Pr. xliii.450; M.C. July 1890, 306.

Night sweats of phthisis much improved under ergot. —Am.M.S.B. 1894,933,977.

**Ergotinina,** *Ergotinine Cristallisée.*

*Dose.*—$\frac{1}{200}$ to $\frac{1}{40}$ grain (0·00032 to 0·0016 Gm.).

An alkaloid in minute white crystals, insoluble in water, soluble in alcohol, ether, chloroform, and dilute acids. **Hypodermic Injection,** Ergotinine 1 grain, lactic acid 2 minims, chloroform water to 1,000 minims, is quick in action in dose of 5 to 10 minims, repeated if needed to the extent of 20 minims. It is costly and unsatisfactory.—L. ii./82,945.

*Solution hypodermique d'Ergotinine de Tanret.*

*Dose.*—3 to 10 minims (1 Cc. contains 0·001 Gm.).

**Ergotininæ Citras.**

*Dose.*—$\frac{1}{150}$ to $\frac{1}{30}$ grain (0·00043 to 0·0022 Gm.)

A soluble salt of the above, in greyish powder, suitable for hypodermic injection (unsatisfactory).

**Liquor Ergotæ Aceticus.**—*Syn.*—**Extractum Ergotæ Fluidum, U.S.** Contains 2 per cent.

of acetic acid, with diluted alcohol as a menstruum. 1 = 1 of Ergot. *Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).—B.M.J. i./88,743,1148.

**Liquor Ergotæ Ammoniatus.**—1 = 1 of Ergot. *Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).

A preparation of Ergot exhausted by diluted ammoniated alcohol. Ammoniated preparations best.—C.&D. i./01,663.

Pharmaceutically, it has been found that ammonia not only exhausts Ergot of its active medicinal properties, but also secures a uniform, stable preparation; whilst, therapeutically, the combination of ammonia and Ergot is indicated in some forms of post-partum hæmorrhage, &c.

A remarkably active preparation of the drug.—L. i./76,93; B.M.J. i./76,89.

A more efficient and reliable preparation, as powerful in action, if not more so, than the fresh infusion prepared from recently-powdered Ergot.—L. i./77,115.

Liquor Ergotæ Ammoniatus in dose of ½ to 1 drachm. Useful in second stage when pains are feeble but labour normal.—L. ii./00,1865.

**Tinctura Ergotæ Ammoniata** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Ergot 5, Solution of Ammonia 2, Alcohol (60 per cent.) *q.s.* to 20 by percolation. The B.P.C. preparation contained 1 in 2 of Aromatic Spirit of Ammonia.

**Acidum Scleroticum**, Sclerotic Acid.

*Syn.* SCLEROTINIC ACID.

*Dose.*—½ to ¾ of a grain (0·032 to 0·05 Gm.) hypodermically.

This weak acid principle is, according to Dragendorff, the most active of a series of preparations he has obtained from Ergot. It is uncrystallizable, pale brown, darkening with age, is hygroscopic, and soluble in water.

**Injectio Acidi Sclerotici Hypodermica.**

One grain in 6 minims. *Dose.*—3 to 5 minims.

Should be freshly prepared, or, if required to be kept, 1 per cent. of phenol should be added to the solution, as it is prone to change.

**Hypodermic Lamels** contain $\frac{1}{16}$ grain (0·004 Gm.) Sclerotic Acid combined with gelatin.

As a hæmostatic Sclerotic Acid possesses all the virtues of Ergot. Injected hypodermically, it is preferred to Ergotin, as it causes no inflammation at the seat of puncture.

Accounts of its chemical preparation.—P.J. 1876, 1001; P.J. 1877,106.

Note on its physiological and therapeutic properties. It accelerates the intestinal peristalsis, and excites contraction both of the pregnant and non-pregnant uterus, pre-existing contractions being intensified. Not a powerful poison, 0·02 to 0·03 gramme being a dose by hypodermic injection.—M.T.G. ii./79,642.

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## ERYTHROL NITRAS.

**Erythrol Nitrate**, **Erythrol Tetranitrate.**—*Syn.* ERYTHRITE TETRANITRATE; TETRANITRIN; NITRO-ERYTHRITE.

*Dose.*—½ to 1 grain (0·032 to 0·065 Gm.), increased to 3 grains or more.

In hard, colourless and tasteless acicular crystals or plates, nearly insoluble in water, soluble about 1 in 60 of absolute alcohol; melting point, 61° C. It is formed by dissolving erythrol in fuming nitric acid, and precipitating by sulphuric acid; is explosive and somewhat costly.

Used as a vaso-dilator like nitro-glycerin and amyl nitrite, it has a less powerful though perhaps more prolonged action in reducing blood-pressure. Employed in angina pectoris, chronic Bright's disease, aneurism, Reynaud's disease, dyspnœa, headache, and nervous affections.—L. ii./95,1205; B.M.J. ii./95,1213; ii./97, 710.

Is most useful in preventing the onset of attacks of angina; best administered in tablets.—B.M.J. i./97,907.

Its uses, and dangers as an explosive during manipulation.—B.M.J. i./98,37,49,299.

In nephritis useful.—B.M.J. ii./98,1047.

For angina, marked relief, given 3 times a day.—B.M.J. i./99,1088.

To avert paroxysms even half a drachm a day has been taken.—B.M.J. i./98,18,127; i./00,256.

May cause violent headache.—B.M.J. i./00,57,131,132.

Use as a vaso-dilator in heart disease.—B.M.J. ii./99, 1259.

'**Erythrol**,' a Bismuth compound, *v.p.*102.

**Tabellæ Erythrol Nitratis**, **Erythrol Nitrate Tablets.** *Dose.*—1 or 2.

Contain ½ grain, combined with chocolate; the fat of the chocolate being a solvent of the nitrate. Tablets ontaining 1 grain are also prepared.—B. M.J. i./86,285.

These tablets the best method of administration.—B.M.J. i. 97,907 ; ii./99,411.

Præcordial pains promptly relieved by a tablet three imes a day.—B.M.J. i./98, 431.

These tablets are quite safe.—B.M.J. i./99,256.

**Mannitol Nitrate, Mannitol Hexanitrate.**—
*Syn.* HEXANITRIN ; NITRO-MANNITE.

*Dose.*—1 grain (0·065 Gm.), increased.

In light acicular quinine-like crystals, melting point 13° C.; is less soluble in water, but more explosive han erythrol nitrate, and if long kept is liable to decomposition. Requires extra care. Is used similarly o erythrol nitrate, but is not so costly. Its physio-ogical action is not nearly so powerful, but probably more prolonged than that of the former.—B.M.J. ii./95,1213 ; i./98,528.

Angina attacks of slow development, Manitol Nitrate useful; action not prompt, but is prolonged.

**Tabellæ Mannitol Nitratis,** Mannitol Nitrate Tablets.

Contain 1 grain (0·065 Gm.) in each with chocolate. —B.M.J. i./98,893.

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## ERYTHROPHLŒUM.

**Casca Bark.**—*Syn.* SASSY BARK ; ORDEAL BARK. The bark of *Erythrophlœum guineense.*

**Tinctura Erythrophlœi.**

1 in 10 of rectified spirit.

*Dose.*—5 to 10 minims (0·3 to 0·6 Cc.).

**Erythrophlœinæ Hydrochloridum.** *Dose.*—$\frac{1}{40}$ to $\frac{1}{24}$ grain (0·0016 to 0·0027 Gm.).

In yellowish white granular crystals, readily soluble in water. The solution has an acrid, bitter taste. Has the combined action of digitalin and picrotoxin.—P.J. 1876,77 ; Archiv für exp. Path. u. Pharm. 1882,483 ; L. i./88,249,346 ; B.M.J. i./88,545,604,661,662.

In mitral disease and cardiac dropsy depending on it, it is a more powerful remedy than digitalis, its effect on the arterioles is greater, and is useful in dilated heart.—B.M.J. i./77,345,379 ; B.M.J. i./78,490.

## ETHIDENI DICHLORIDUM.

**Ethidene Dichloride.**—*Syn.* MONOCHLORETHYL CHLORIDE; CHLORINATED ETHYL CHLORIDE.

A colourless volatile liquid possessing the odour and taste of chloroform. It has Sp. Gr. about 1·2, boiling point 135° to 150° F. (147·2° Regnault), and is miscible in all proportions with pure ether, alcohol, and chloroform, and soluble about 1 in 300 in water, being less so than chloroform.

Compared with chloroform, Ethidene Dichloride is pleasanter, more rapid in action, causes no excitement during or after administration, more rapid recovery from it, and altogether there is less danger attending its use. Children require about 1 drachm, adults 4 or **5 drachms.—Steffen in Binz.**

The disadvantages of ether in affecting respiration are, to a great extent, obviated by the use of Ethidene, whilst the dangers of chloroform are reduced to a minimum.—Reports of the Glasgow Committee on the action of Anæsthetics.—B.M.J.i./79,2; B.M.J.ii./80,957.

**Eucaine,** *v.p.* 192.

## EUCALYPTI FOLIA.

### Eucalyptus Leaves.

*Dose.*—5 grains (0·32 Gm.) or more in powder.

The dried leaves of *Eucalyptus Globulus*, or blue gum-tree of Australia, have been employed medicinally in the treatment of ague and bronchitis, and are now much used in Italy for Roman and malarial fevers; also, when coarsely powdered, are employed for smoking in cigarettes in cardiac and aneurismal asthma.

**Oleum Eucalypti** (*Off.*).

*Dose.*—½ to 3 minims (0·03 to 0·18 Cc.) on sugar, emulsified, or mixed with olive oil.

Is principally distilled from the leaves of *Eucalyptus amygdalina* as well as *E. Globulus*, *E. dumosa*, *E. oleosa*, *E. cneorifolia*, *E. uncinata*, *E. gracilis*, *E. incrassata*, and *E. odorata*. The oil is an antiseptic, and ozonizes the atmosphere whilst oxidizing. It has a pale yellow colour, a spicy taste, producing an after-sensation of coldness in the mouth, a camphoraceous odour; boils between 338° and 392° F.; its official Sp. Gr. is

0·910 to 0·930. It is not caustic, nor should it cause much coughing when inhaled (due to Phellandrene—for inhalation the oil should not have a Sp. Gr. under 0·9), or irritation when applied to the skin or mucous membrane, yet it is destructive to low organisms. It is soluble in oils, fats, paraffins, and alcohol, but only a trace dissolves in water. An emulsion may be made by putting equal quantities of powdered gum arabic and the oil into a dry bottle, adding 40 parts of water, more or less, and shaking well. This is useful as an urethral injection or lotion, and may be given internally in 1 to 4-drachm doses. The oil is useful mixed with an equal quantity of olive oil as a rubefacient for rheumatism, and is a popular prophylactic, inhaled or sprayed, for influenza. The oil of *E. maculata, var. citriodora* has an agreeable odour resembling that of citronella.

**Eucalyptene Hydrochloride**, Eucalypteol.

*Dose.*—2 to 6 grains (0·13 to 0·4 Gm.).

In white crystalline scales, with bitter taste, soluble in alcohol, ether, and chloroform, nearly insoluble in glycerin and water, decomposed by alcohol and alkalis. Has been given with success in diarrhœa and typhoid, and has relieved cough in phthisis.—L. i./93,44; P.J. 1893,685.

In enema, 30 grains with 2 ounces olive oil and yolk of an egg.

**Eucalyptol.**—*Syn.* CINEOL.

*Dose.*—1 to 4 minims (0·06 to 0·24 Cc.).

Is that portion of the above oil which passes over between 347° and 351° F., and crystallizes at 30° F. It is contained principally in the oils of *E. cneorifolia* (which has a cumin-like odour), *E. dumosa*, and *E. oleosa*, to the extent of 50 per cent. or more. It is preferred to the crude oil for use in the oro-nasal inhalers, as it does not dry up as a varnished coating. It may be obtained from the oil by the action of phosphoric acid, with which it forms a crystalline compound, **Eucalyptol Phosphate.** On addition of water, this splits up, setting free Eucalyptol. The formation of crystallized Eucalyptol Phosphate is an official test for Eucalyptus Oil.—P.J. 1894,501; L. i./95,687.

**Phellandrene**, which crystallizes with nitrous acid, is a large constituent of the oil of *E. amygdalina*, producing an irritating effect when inhaled.

**Eucalyptus Gauze,** Carbasus Eucalypti. An antiseptic surgical dressing, in 6-yard pieces. Unbleached cotton gauze, impregnated with Oil of Eucalyptus 1, Dammar Resin 3, Paraffin Wax 3. In using it there is no danger of poisonous absorption of the antiseptic, as with carbolic acid gauze.—L. i./81,838; B.M.J. i./81,850.

**Eucalyptus Sawdust.**

Oil 1, Sawdust 8. Used to deodorise the air of rooms.

**Eucalyptus Wool,** with 5 per cent. of Oil.

**Iodoform and Eucalyptus Bougies.**—Iodoform, *v.p.*292.

**Tinctura Eucalypti Foliorum, B.P.C.**

*Dose.*—15 minims to 2 drachms (0·9 to 7 Cc.).

One part of leaves with rectified spirit to produce 5 parts of tincture.

**Unguentum Eucalypti** (*Off.*).

Hard Paraffin 4, Soft Paraffin, white, 5. Melt, and add while hot, Oil of Eucalyptus 1 ounce. Stir till cold. A mild antiseptic dressing.

**Unguentum Iodo-Paraffini.**—Iodoform, *v.p.*293.

**Vapor Eucalypti, T.H.**

Oil 20 minims, Light Magnesium Carbonate 10 grains, Water to 1 ounce. A teaspoonful in a pint of hot water. (Vict. Park has double quantity of oil).

**Pessaries,** composed of 6 drachms of Eucalyptus oil, and 4 drachms each of oil of theobroma and white wax, divided into 12, one night and morning, or at night only, found useful after parturition, checks fetor and decomposition of lochial discharge.

Vapour of Eucalyptus Oil used for diphtheria.—L. ii./83,362.

Use of oil as disinfectant in scarlet fever.—B.M.J. ii./89,1151; i./90,723; L. i./90,754; i./91,984. By inunction.—B.M.J., ii./92,448; i./93,335; L.i./95,861.

Inhalation of oil is prophylactic to influenza, relieves the headache and oppression.—L. i./90,127,267; i./92, 1185.

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## EUCALYPTI GUMMI.

**Eucalyptus Gum.** (*Off.*).—*Syn.* RED GUM.

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

May be made into pills with mucilage of acacia and a trace of glycerin, quickly manipulated.

A ruby-coloured exudation from *Eucalyptus rostrata* and some other species, imported from Australia. From 0 to 90 per cent. of it is soluble in cold water, almost entirely soluble in Alcohol (90 per cent.). Tough, and difficult to powder, it adheres to the teeth when chewed, is intensely astringent to the mucous membrane, useful in diarrhœa, relaxed throats, and given with success to check the purging of mercurial pill administered for syphilis.

This gum should be distinguished from the common Australian or Botany Bay kino, said to be the produce principally of *E. resinifera*. The latter is very resinous and little soluble in water, nevertheless it has been made official in **I.C. Add.** as **Kino Eucalypti**, *v.p.*xxvii.

**Decoctum Eucalypti Gummi.** 1 in 40.

Boil till dissolved and strain. Used as gargle, and given for diarrhœa in 2 to 4 drachm doses.—L.ii./83,1029.

**Extractum Eucalypti Gummi Liquidum, B.P.C.**

*Dose.*—30 to 60 minims (1·8 to 3·5 Cc.). in water.

Eucalyptus Gum 7, Distilled Water 20. Dissolve by constant shaking, strain and add Alcohol 90 per cent. 1.

A styptic. Injected into the nostril stops bleeding from the nose, and applied on lint arrests hæmorrhage from wounds. A tablespoonful to a pint of water forms an astringent injection for the vagina or bowel (Squire). This dilution may be also used as a gargle.

**Insufflatio Eucalypti Gummi.**

Eucalyptus gum in fine powder 1, Starch 1.

Applied by means of an insufflator, is a powerful astringent in hæmorrhage and relaxed conditions of the larynx and trachea. It does not thus affect the palate or appetite.

**Syrupus Eucalypti Gummi.**

Liquid Extract of Eucalyptus Gum 5, Sugar 3. Dissolve. *Dose.*—30 to 60 minims (1·8 to 3·5 Cc.).

**Tinctura Eucalypti Gummi.**

Eucalyptus Gum 1, Alcohol (90 per cent.) 4. Shake till dissolved and strain. *Dose.*—20 to 40 minims (1·2 to 2·4 Cc.). 1 part to 7 of water forms a very astringent gargle.

**Trochisci Eucalypti Gummi.** (*Off.*).

Contain 1 grain (0·065 Gm.) in each, with fruit paste.

**Trochisci Eucalypti Compositi.**

Potassium Chlorate 2 grains, Cubeb Powder ¼ grain, Eucalyptus Gum 1 grain. With fruit paste, and are marked C.E. Useful in congested and relaxed throats, especially when accompanied by arrest of mucous secretion.

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## EUONYMI CORTEX.

**Euonymus Root Bark.** (*Off.*).

Obtained from *Euonymus atropurpureus*, the wahoo or spindle-tree.

**'Euonymin.'** *Made official as*

**Extractum Euonymi Siccum. Dry Extract of Euonymus.** (*Off.*).

*Dose.*—1 to 2 grains (0·065 to 0·13 Gm.).

The bark in No. 20 powder is percolated with 45 per cent. alcohol, the percolate concentrated, calcium phosphate added, and the mixture evaporated and reduced to powder. It must be well corked, and kept cool and dry, or it cakes together again. Possesses tonic, hydragogue, cathartic, diuretic, and antiperiodic properties. The so-called principle, Euonymite, obtained from it, proves to be identical with Dulcite.—P.J. 1889,273,460,472.

**Pilula Euonymin.**

Euonymin 2 grains (0·13 Gm.). Extract of Henbane, *q.s.*, for one pill; take at bedtime. A cholagogue stimulant, producing no depression or headache; requires to be followed by a saline aperient in the morning.—Pr. xxiii.335.

A powerful hepatic stimulant, but not nearly so powerful an irritant of the intestine as podophyllin.—B.M.J. Rep. 1878,63; B.M.J. i.'70,177.

One grain, combined with 4 grains iridin, is a successful purging dose.—B.M.J. ii.'79,932.

**Extractum Euonymi Liquidum.**

1 = 1 of bark, treated with Alcohol (90 per cent.) 4, water 1.

*Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).

**Tinctura Euonymi, B.P.C.**

*Dose.*—10 to 40 minims (0·6 to 2·4 Cc.).

Euonymus Bark in No. 20 powder 1, Alcohol (90 per cent.) 5. Moisten the powder, and macerate for 24 hours; then percolate to 5.

## EUPHORBIA PILULIFERA.

The dried Snake Weed or Cat's Hair, an Australian lant, is used for asthma, bronchial affections, paroxysmal yspnœa, laryngeal spasm, whooping-cough, angina ectoris, and in all affections of the pneumogastric. appears to act directly and solely on the respiratory nd cardiac centres.—L. ii./85,86; P.J. 1885,987; . ii./91,505. Useful in coryza, hay fever, and asthma.—h. Gaz. 1890,449; B.M.J.E. i./92,79.

**Decoctum Euphorbiæ Piluliferæ.**—1 in 40.
*Dose.*—2 ounces (60 Cc.) twice daily.

**Extractum Euphorbiæ Piluliferæ** (Aqueous).
*Dose.*—½ to 1½ grains (0·032 to 0·1 Gm.).

**Tinctura Euphorbiæ Piluliferæ, B.P.C.**
1 in 5 of proof spirit.
*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.).

## EXTRACTUM CARNIS.

**Extract of Meat.**—*Syn.* Liebig's Extract; Lemco. contains little or no albuminous principles or elatin, but consists of creatin, creatinin, globulin, and rea, with organic potash and other salts. It has been uch overestimated as a food, either for invalids or ealthy persons; still it is often valuable as a flavouring add to soups, beef-tea, &c., and it is a *nerve* food lied to tea.

Numerous similar preparations are sold under fancy ade names, *e.g.*, Bovril, Invalid Bovril, Bovril Meat uice, and Bovril Beef Jelly.

**Fersan.**
*Dose.*—30 to 80 grains (2 to 5 Gm.) 3 times daily.
An iron, phosphorus and blood compound given in næmia.—B.M.J.E.ii./00,20; P.J.i./01,37.

**Concentrated Beef-Tea.**
A firm jelly, sold in ¼ and ½ lb. tins, also in skins, ntains the natural gelatin of the meat, and, diluted, rms a nutritious substitute for true beef-tea.

**Essence of Beef.** Sold in 2 and 4 oz. tins.
A soft, transparent, amber-coloured jelly, prepared om beef by exhausting with tepid water. It is agreeble to the palate and stomach of a delicate invalid;

will often be relished when all other food is repelled, and is useful in allaying obstinate vomiting. It is best taken cold by teaspoonfuls, as desired, with or without a little bread and wine. Similar preparations are made from mutton and chicken.—M.T.G. i./61,536,587.

**Meat Lozenges.**
Sold in boxes; are savoury, gelatinous essence of beef lozenges, and contain substantial support for travellers in a portable form.

**Peptonised Beef Jelly.**—Pancreas, *v.p.*365.

**Peptonised Beef Suppositories,** *v.p.*375.

**Meat Juices**, **Liquor Carnis** and others.
Dark, reddish-brown liquids consisting of the expressed juice of meat concentrated at a low temperature in vacuo. A teaspoonful is added to 3 tablespoonfuls of cold or tepid water, and taken in tablespoonful doses or more for sickness or exhaustion. Hot water coagulates the albumen in it.

**Sanguis Bovinus Exsiccatus, Desiccated Blood.** An American preparation.
Blood freed from fibrin, evaporated, at a low temperature, to dryness. Is in blackish-red, opaque scales, like tartarated iron in appearance, readily soluble in cold water. One part in 8 of tepid water may be used as an enema; the same strength, with the addition of a little glycerin and brandy, to keep the mixture, is recommended to be given in tablespoonful doses; or it may be given powdered, put into cachets.

Useful as a nutritive enema.—L. i./81,322; ii./83.278.

*Blood Preparations, a résumé, dividing same into 3 groups*: (i.) colouring matter of blood unchanged or with slight traces of Methæmoglobin, *e.g.*, Pfeiffer's Hæmoglobin Extract and Hommel's Hæmatogen (which consists of defibrinated bullock's blood with Malaga Wine and glycerin); (ii.) combinations of Methæmoglobin and Hæmatin, *e.g.* Hæmoglobin Nardi. Hæmoglobin Lamellæ (Merck); (iii.) in which the normal absorption lines of the blood cannot be identified, *e.g.* Hæmol (Kobert) and Hæmogallol (Kobert), *v.p.*480.—P.J. ii./00,258; *ex* Schweiz, Woch., 38,75.

**Somatose.** A light yellow granular powder, easily soluble in water, prepared from meat and consisting principally of albumose. It is odourless and nearly steless and may be given in any liquid, up to an ounce aily.—P.J. ii./96,246. Several cases rapidly gained rength.—B.M.J.E. i./96,36,56,67; Therap. 1900, p.34.

Greatly assists lactation.—B.M.J.E. i./98,31.

**Liquid Somatose.** A syrupy form of above, is more convenient for use.

**Ferro-Somatose**, Iron Somatose.

A tasteless brown powder soluble in water, containing bout 4·5 per cent. of ferric oxide combined with lbumose. Useful in chlorosis and anæmia.

*Dose.*—75 to 150 grains (5 to 10 Gm.) daily.— i./98,872.

**Lacto-Somatose.** Milk Somatose.

Contains the albumoses of milk, dessicated. Given as a food similarly to Somatose.

**Eucasin, Protene, Plasmon, Sanose** and **Tropon**, re similar albuminoid food preparations to Somatose. **Mutase** is said to consist principally of vegetable albumin.

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# FERRUM.

## Iron (*Off.*).

**Ferri Bromidum,** Ferrous Bromide.

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.).

Prepared by the direct combination of bromine with metallic iron in the presence of water, and evaporating he solution till, when cooled, it will solidify. In greyish-white deliquescent masses, which, on exposure to the air, cquire a brown colour from oxidation.

**Syrupus Ferri Bromidi. B.P.C.**

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

| | |
|---|---|
| Iron Wire, free from oxide | ½ ounce. |
| Bromine ... ... | 533 grains. |
| Refined Sugar ... ... | 14 ounces. |
| Distilled Water... ... | *q.s.* to 1 pint. |

Dissolve the sugar in 6 ounces of water, by the aid of eat. Place the iron wire with 4 ounces of water into a int flask, and surround it with cold water. Then add he bromine in successive quantities; shake occasionally ntil the froth becomes white, and the reaction is complete. Filter the solution into the warm syrup, and add, f necessary, distilled water *q.s.* to 1 pint.

Each drachm contains about 4½ grains of ferrous bromide. The U.S. syrup is stronger—contains 10 per cent.

**Syrupus Ferri Bromidi cum Strychnina.**—*Syn.* SYRUPUS FERRI ET STRYCHNINÆ, HYDROBROMATUM.

*Dose.*—1 drachm = $\frac{1}{64}$ grain Strychnine (in early editions $\frac{1}{32}$ grain) and about 4½ grains of Ferrous Bromide.

Strychnine 1, Diluted Hydrobromic Acid 60, Distilled Water 250; dissolve and add Syrup of Ferrous Bromide to 3,500.

In one drachm of this syrup one grain of acid quinine hydrobromide is dissolved to form

**Syrupus Ferri Bromidi cum Quinina et Strychnina, B.P.C.**—*Syn.* SYRUPUS FERRI QUININÆ ET STRYCHNINÆ, HYDROBROMATUM, 1894.

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

**Syrupus Ferri Bromidi cum Quinina. B.P.C.**—*Syn.* SYRUPUS FERRI ET QUININÆ HYDROBROMATUM, 1894.

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Prepared as the last, omitting the Strychnine.

**Ferri Carbonas Saccharatus.** **Saccharated Iron Carbonate** (*Off.*).

*Dose.*—10 to 30 grains (0·65 to 2 Gm.), in pills or cachets.

Ferrous oxycarbonate partially oxidized and mixed with sugar, the mixture containing about one-third of its weight of anhydrous carbonate.

One drachm doses useful in chloremia.—B.M.J. i./90, 1239; L. i./93,404.

**Pilula Ferri Carbonatis** (B.P. 1885). Saccharated Iron Carbonate 4, Confection of Roses 1.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

Better made with simple syrup, and is preferable to Blaud's Pill; useful in anæmia.—B.M.J. i./91,274; L. i./91,292.

**Pilula Ferri,** Iron Pill (*Off.*).

*Syn.* BLAUD'S PILL.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

Exsiccated Ferrous Sulphate 15, Exsiccated Sodium Carbonate 9·5, Gum Acacia 5, Tragacanth 1·5, Syrup 15, Glycerin 1, Distilled Water 2, or *q.s.* [illegible] the Syrup, Glycerin and Water, add the Iron, and then quickly the Sodium Carbonate, mix thoroughly. Set aside 15 inutes, or until the reaction is complete; add the ums and incorporate thoroughly. If divided into 5-ain pills, each pill will contain about 1 grain of Ferrous arbonate.

**ilulæ Ferri Carbonici. P.Aus.Add.**

Precipitated Ferrous Sulphate 10, Sugar 4, otassium Carbonate 5, Glycerin 6, mix well. Add agnesium Oxide 1, Althæa Root in powder 14. Divide to 200 pills, each of which will contain about 0·01 Gm. metallic iron.

**ilula Ferri carbonici Blaudii. P.G. iv.**

Exsiccated Ferrous Sulphate 9, Sugar 3, Potassium arbonate in fine powder 7, Calcined Magnesia 0·7, lthæa Root in fine powder 1·3, Glycerin 4 (or less). eat to a mass, divide into pills weighing 0·25 Gm., and ust with lycopodium.

Chlorosis of young females best treated by a course of laud's Pills, increased up to 15 daily.—L. i./92,517.

Tablets, 4 and 8 grains. *Dose.*—1 to 4 four-grain, 2 eight-grain Tablets, and also with Arsenious Acid grain. *Dose.*—1 to 4.

**Mistura Ferri Composita** (*Off.*). *Syn.* GRIFFITH'S MIXTURE.

*Dose.*—½ to 1 ounce (15 to 30 Cc.).

Ferrous Sulphate 5, Potassium Carbonate 6, Myrrh 2, Sugar 12, Spirit of Nutmeg 9, Rose Water *q.s.* 875.

The mixture is best kept of double strength, and the on salt (2½ grains to each ounce) added when dispensed.

## Ferri Perchloridum, Ferric Chloride.

(With 12 molecules of water of crystallization.)

*Dose.*—2 to 8 grains (0·13 to 0·52 Gm.).

The official preparations of Ferric Chloride are:— quor Ferri Perchloridi, *dose,* 5 to 15 minims; Liquor erri Perchloridi Fortis, *dose,* 1 to 4 minims; and nctura Ferri Perchloridi, *dose,* 5 to 15 minims. ey are incompatible with infusions, &c., containing nnin, with the alkalis, alkaline carbonates, and mucige of acacia. The tincture, composed of strong liquor 1, cohol (90 per cent.) 1, water *q.s.* to 4, is the most genelly used, and most valued preparation of iron for internal ministration in anæmia, chlorosis, &c. If diluted from well-prepared strong Liquor, the tincture is more stable than the weak Liquor, which, for economy's sake, often supplants it. The strong Liquor is generally employed topically as a styptic or pigment; for this purpose, it has the disadvantage of containing a little more free acid than chemically neutralises the iron as perchloride. As a hæmostatic, therefore, the solid crystallized perchloride of iron containing 12 molecules, 40 per cent. of water, or a strong solution of it, is preferred. This salt is prepared by carefully evaporating the stronger official solution and setting aside to crystallize. It is in pale orange-yellow opaque crystalline masses, very deliquescent, and entirely soluble in water.

A **Liquor Ferri Perchloridi Fortis** of B.P. Sp. Gr. 1·42 may be made by dissolving Ferric Chloride, with 12Aq. 5 parts, in Distilled Water 2 parts.

In T. H. the salt is ordered in each ounce of

**Nebula Ferri Perchloridi**, 3 grains;

**Pigmentum Ferri Perchloridi Dilutum**, 60 grains;

**Pigmentum Ferri Perchloridi Forte**, 120 grains.

**Glycerinum Ferri Perchloridi, G.H.**

Solution of Ferric Chloride 1, Glycerin 1. (U.C.H.; Mid. H. Ferric Chloride 1, Glycerin 4. For use as a paint.)

Glycerin covers its metallic astringent taste when given internally, and modifies the styptic properties of Ferric Chloride partially by its viscosity, and partially by reducing it from the ferric to the ferrous state.

**Gossypium et Linteum Ferri Perchloridi,** Styptic Wool and Lint, each contain 15 per cent.

**Ferripyrin,** *v.p.*175.

**Tinctura Ferri Muriatis. P.E.**

*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.).

Sesquioxide of Iron (prepared by precipitation of ferrous sulphate with sodium carbonate) 6 ounces. Muriatic Acid 1 pint. Digest three days; add Rectified Spirit 3 pints, and filter. Contains some Ferrous Chloride, and is preferred by some practitioners.—B.M.J. i./87,1206; ii./87,69,95,107,217,335.

**Mistura Ferri Amara. U.C.H.**

Solution of Ferric Chloride 30 minims, Spirit of Chloroform 5 minims, Infusion of Quassia to 1 ounce.

**Mistura Ferri Aperiens. U.C.H.**

Magnesium Sulphate 60 grains, Ferrous Sulphate grains, Diluted Sulphuric Acid 9 minims, Peppermint Water to 1 ounce.

**Mistura Ferri Arsenicalis. U.C.H.**

Citrate of Iron and Ammonium 7½ grains, Arsenical Solution 5 minims, Tincture of Calumba 24 minims, Water to 1 ounce. *Dose.*—½ to 1 ounce.

**Mistura Ferri Perchloridi. U.C.H.**

Solution of Ferric Chloride 15 minims, Glycerin 8 minims, Chloroform Water to 1 ounce.

**Mistura Ferri Salina. U.C.H.**

Potassium Citrate 22 grains, Solution of Ferric Chloride 4 minims, Coloroform Water to 1 ounce. The styptic taste of iron is masked in this mixture, as a double decomposition occurs between the iron and the potash salt. If to 30 minims of the solution of Ferric Chloride 15 minims of the Solution of Ammonium Citrate be added, its styptic taste is effectually disguised.

**Liquor Ferri Chloroxidi.**

*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.).

Strong Solution of Ferric Chloride 4, Distilled Water 40. Mix, and add in excess, Solution of Ammonia, *q.s.*; collect, wash well the precipitate, stir, and dissolve it with a gentle heat in Strong Solution of Ferric Chloride, 1 Distilled Water *q.s.*, to make when filtered 20.

**Liquor Ferri Oxychlorati, P.G.**, is about one-third weaker.

The above makes a basic solution of Ferric Chloride, of the same strength as the tincture. By placing this solution on a septum floating in water, it may be further freed from chloride, and rendered less styptic in taste, forming

**Liquor Ferri Dialysatus (B.P.** 1885).—Sp. Gr. 1·047.

*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.).

The last two preparations, made as directed, are dark reddish-brown in colour, and contain about 5 per cent. of ferric oxide. The strength of the latter will be slightly variable, as some of the iron passes through the septum. These two preparations of iron are useful when the strong acid preparations of iron cannot be borne by the stomach, but they are compatible with few other medicines, they will not bear dilution with common water, or with much distilled water without depositing the oxide. They ought, therefore, to be supplied to the patients as "drops," undiluted, or mixed with glycerin. —See below.

Dialysed iron is useful as an antidote to arsenic—much superior to the moist peroxide; 1 ounce doses should be given repeatedly, preceded by a dose of common salt or sodium bicarbonate, *v. p.*82.

**Glycerinum Ferri Dialysati.**

Dialysed Iron Solution 1, Glycerin 2. Keeps well, and is palatable. *Dose.*—1 drachm (3·5 Cc.).

Experiments as to the antidotal value of dialysed iron solution.—P.J. 1878,281,569,1001.

Arsenical poisoning case recovered by treating with 2-drachm doses given diluted with water frequently.—P.J. 1878,570.

The chloroxide solution in treating a case of extreme anæmia during nine weeks, increased the number of red-blood corpuscles from 26 per cent. to 92 per cent.: in another case, patient taking Liq. Ferri Chloroxidi, m.xx., cum Liq. Bismuthi et Ammonii Citratis, m.xx., ter die, for thirteen weeks, from 47 to 102 per cent.—L. i./78,675; Pr. xxi.1.

**Ferrum Oxydatum Saccharatum. P.Aus. Add; P.G. iv. Saccharated Ferric Oxide.**

*Dose.*—10 to 40 grains (0·65 to 2·6 Gm.).

Sodium Carbonate 15, dissolved in Water 30, to this gradually add Ferric Chloride Solution 30, cold Distilled Water 600; mix with the above Sodium Carbonate 15 dissolved in Water 600. Set aside, decant, wash the precipitate, collect and press gently, mix in a porcelain dish with Sugar 25, Soda Ley (Sp. Gr. 1·17) 3. Heat in a water-bath, add Sugar 70 and, stirring continuously, evaporate to dryness to form a reddish-brown powder. Should contain at least 2·8 per cent. of metallic iron.

**Carniferrin.** *Dose.*—8 grains (0·52 Gm.) daily.

A compound of phospho-carnic acid of muscle (obtained from meat extract or from whey) and iron; is a tasteless brown powder readily assimilated; recommended for anæmia and chlorosis.

**Ferratin.** A German specialty.

*Dose.*—8 to 15 grains (0·52 to 1 Gm.).

A reddish-brown tasteless inodorous powder, insoluble in water, and containing 7 per cent. of iron; prepared by treating albumen and the tartrates of iron and potassium with soda. Recommended in anæmia; easily assimilable, and continued treatment does not disturb digestion.—P.J. 1894,622; Pr. li.427; B.M.J.E. ii./93, 92; ii./95,16; i./96,8; Pr. liii.87; L. i.95,1064.

**Liquor Ferri Albuminati, Solution of Albuminated Iron** (after Dieterich; *Liquids to be weighed*). Same strength as P.G.

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

| | | |
|---|---|---|
| Mix | Solution of Chloroxide of Iron | 120 |
| with | Distilled Water at 50° C. ... | 4000 |
| Dissolve | Dried Egg Albumen ... ... | 30 |
| in | Distilled Water at 50° C. ... | 4000 |

Add the albumen solution to the iron solution, and exactly neutralize the mixture with

Solution of Soda diluted with 5 times its bulk of water.

Let the resulting precipitate settle, pour off the liquid, and wash the precipitate repeatedly with

Distilled Water at 50° C.

until the washings are free from chloride. Collect and drain it on linen, then transfer it to a tared bottle, and dissolve by adding

| | |
|---|---|
| Solution of Soda ... ... | 18·3 |

To the resulting solution,

| | | |
|---|---|---|
| add | Alcohol (90 per cent.) ... | 160 |
| diluted with | Cinnamon Water ... ... | 90 |
| and then | Distilled Water to ... .. | 1000 |

Contains about 4 of Iron in 1000. Is easily digested and borne by a delicate stomach.

**Liquor Ferri Peptonati. Solution of Peptonated Iron** (after Dieterich; *Liquids to be weighed*).

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

| | | |
|---|---|---|
| Dissolve | Dried Egg Albumen ... | 10 |
| in | Distilled Water ... ... | 1000 |
| Add to this | Pepsin ... .... ... | 0·5 |
| and | Hydrochloric Acid ... ... | 14 |

Digest the mixture for 12 hours at 40° C. (104° F.); cool and neutralize with Solution of Soda;

| | | |
|---|---|---|
| then add | Solution of Chloroxide of Iron | 120 |
| diluted with | Distilled Water ... ... | 1000 |

Again neutralize exactly with
Solution of Soda diluted with 7 times its bulk of water.

Pour off the liquid from the precipitate when it has subsided, and wash the precipitate with
Distilled Water until free from chloride.

Collect and drain the precipitate on linen, transfer to a tared bottle and dissolve by addition of
Hydrochloric Acid... ... 1·17
warming slightly to promote solution.
Now add Simple Syrup ... ... 10
Compound Tincture of Cinnamon .. 10
Alcohol (90 per cent.) ... ... 150
and Distilled Water to... ... ...1000

This solution is clear by transmitted light, but opaque by reflected light.

**Liquor Ferri Peptonati cum Quinina.**

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.). Contains ½ per cent. of Quinine Hydrochloride.

**Liquor Ferro-Manganesii Peptonati.** Solution of Peptonated Iron and Manganese.

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.). Contains, in addition to Iron, 0·1 per cent. of Manganese.

Aleptone is a similar preparation.—B. & C. D. ii '00. 158.

**Tinctura Ferri Pomata, P.G.**

*Dose.*—15 to 30 minims (0·9 to 1·8 Cc.).

Ferrated extract of apples (prepared by digesting iron filings in juice of sour apples) 1 part. Cinnamon Water (P.G., containing 10 per cent. of alcohol) 9 parts. Dissolve and filter.

**Liquor Ferri Acetatis** (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

Ferric hydrate is precipitated by means of excess of ammonia from solution of ferric sulphate 5, diluted with water 40; it is washed, drained, squeezed, and lastly dissolved in glacial acetic acid 3, and water added *q.s.* to 40; after standing, decanted.

**Tinctura Ferri Acetatis, B.P.** 1885, was of the same strength.

*Dose.*—5 to 30 minims (0·3 to 1·8 Cc.).

**Syrupus Ferri Iodidi, Syrup of Ferrous Iodide.** (*Off.*)

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Contains Ferrous Iodide 1 in 10 (1 gr. in 11 m.), and is slightly stronger than B.P. 1885. If precipitated by sodium carbonate solution the filtrate should stand a volumetric test of silver nitrate.

Exposure to sunlight, and addition of small quantity of tartaric acid or hypophosphorous acid helps to keep its colour.

**Liquor Ferri Iodidi.** *Dose.*—3 to 6 m. (0·18 to 0·35 Cc.).

The above *sine* sugar. 10 minims are equivalent to 1 drachm of the Syrup.

**Pilula Ferri Iodidi (B.P. 1885).**

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

Shake carefully in a stoppered bottle Iodine 80, Water 46, with Iron Wire 40; add decanted Solution to Sugar 70; mix and combine with Liquorice Powder 140. In dividing this into pills, roll them in a mixture of reduced iron and lycopodium, and varnish.

**Ferri Phosphas.** Iron Phosphate (*Off.*).

*Dose.*—5 to 10 grains (0·32 to 0·65 Gm.).

A slate-blue amorphous powder containing at least 47 per cent. of ferrous phosphate, with ferric phosphate and oxide.

Ferri Phosphas Solubilis, U.S., is a soluble sodio-citro-ferric phosphate.

**Syrupus Ferri Phosphatis** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.). One drachm contains 1 grain of anhydrous ferrous phosphate. It is best kept in bottles quite full.

**Syrupus Ferri et Manganesii Phosphatum.**

May be made by dissolving ½ grain (0·032 Gm.) manganese phosphate in each drachm of the last.

**Syrupus Ferri Phosphatis Compositus, B.P.C.**

*Syn.* CHEMICAL FOOD; PARRISH'S SYRUP (*modified*).

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

| | |
|---|---|
| Iron Wire, free from oxide ... | 37½ grains. |
| Concentrated Phosphoric Acid, Sp. Gr. 1·5 ... | 1 ounce. |
| Distilled Water ... ... | 5 drachms. |

Place in a glass flask, so that the liquid completely covers the wire, plug with wool, and heat gently till dissolved. Now take of

| | |
|---|---|
| Precipitated Calcium Carbonate ... ... ... | 120 grains. |
| Concentrated Phosphoric Acid ... ... ... | 4 drachms. |
| Distilled Water ... ... | 2 ounces. |

Mix and add

| | |
|---|---|
| Potassium Bicarbonate ... | 9 grains. |
| Sodium Phosphate ... | 9 grains. |

Then add the solution of phosphate of iron, filter, and set aside.

| | |
|---|---|
| Cochineal ... ... ... | 30 grains. |
| Distilled Water ... ... | 7½ ounces. |

Boil 15 minutes, cool and filter, pouring over the filter sufficient water to produce seven ounces. To this add

| | |
|---|---|
| Refined Sugar ... ... | 14 ounces. |

Heat till dissolved and strain. When cold, add the solution of phosphates, and sufficient water to measure 1 pint. Contains in each drachm about ½ grain Phosphate of Iron and $\frac{4}{5}$ grain Phosphate of Calcium, with small quantities of the Phosphates of Potassium and Sodium. It should be kept in bottles quite full. It is not too nauseous to administer to children, for whom it is frequently prescribed, in teaspoonful doses.

**Syrupus Ferri Phosphatis cum Quinina et Strychnina.** (*Off.*).

*Syn.* EASTON'S SYRUP (*modified*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).—One drachm represents 1 grain of anhydrous ferrous phosphate, $\frac{4}{5}$ grain Quinine Sulphate, and $\frac{1}{32}$ grain Strychnine.

The original formula was published in Aitken's Practice of Medicine, vol. ii. p. 62, 5th ed.

This syrup becomes discoloured. A **Liquor Quininæ et Strychninæ**—*dose*, 4 to 8 minims (0·25 to 0·52 Cc.)—may be made with Strychnine 10 grains, Quinine Sulphate 260 grains, Concentrated Phosphoric Acid 2 drachms, Distilled Water *q.s.* to 5 ounces. When required add 1 part to 7 parts of Syrup of Ferrous Phosphate to produce Easton's Syrup.

**Elixir Ferri Phosphatis cum Quinina et Strychnina.**

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Prepare as the Syrup, using Simple Elixir in place of syrup as a vehicle.

Easton's syrup has its equivalent dose in the following pill, which is portable, tasteless, and readily soluble :—

**Pilula Ferri Quininæ et Strychninæ Phosphatum.**

| | | | |
|---|---|---|---|
| Ferrous Phosphate | ... | 16 grains. | (1 Gm.) |
| Quinine Sulphate ... | ... | 16 grains. | (1 Gm.) |
| Strychnine ... | ... ... | $\frac{1}{2}$ grain. | (0·032 Gm.) |
| Milk Sugar | ... ... | 20 grains. | (1·25 Gm.) |

Concentrated Phosphoric Acid *q.s.*83.

Mix quickly, having first triturated the strychnine with the Milk Sugar, and divide into 16 pills. Also made one-half this strength. Either may be combined with Arsenious Acid, $\frac{1}{60}$ grain (about 0·001 gramme).

**Pilula Trium Phosphatum, G.H.** Is similar to the above with liquorice powder *vice* sugar.

**Ferri Sulphas** (*Off.*) and **Ferri Sulphas Granulatus** (**Ferrum sulphuricum præcipitatum, P.Aus.Add.**), a purer form. **Ferrous Sulphate.**

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

Relieves anæmia more thoroughly than carbonate or phosphate.—L. i./93,403 ; M.C. April, 1893 55.

**Ferri Sulphas Exsiccatus** (*Off.*). *Dose.*—$\frac{1}{2}$ to 3 grains (0·032 to 0·2 Gm.) 5 grains = 8 of the above.

Best administered in pill, as

**Pilula Ferri Sulphatis,** 3 or 5 grains, with syrup *q.s.* Dissolving slowly, these pills do not derange the stomach.

**Pilula Ferri Arsenicalis.** *v.p.*83.

**Liquor Ferri Subsulphatis, U.S.** **Monsel's Solution.**

*Dose.*—3 to 6 minims (0·18 to 0·35 Cc.).

A solution of basic ferric sulphate. When evaporated and scaled forms **Monsel's Salt** or **Oxypersulphate of Iron.** Said to be the most astringent styptic and least irritating preparation of iron.—C. & D. ii./93,620.

**Ferri et Magnesii Sulphas.**

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.).

A double salt containing about half its weight of each sulphate : in sea-green crystals with chalybeate taste, soluble 3 in 4 of water.

In 10-grain doses has no astringent or aperient action, hence suitable for prolonged use in chlorosis and anæmia.

Given thrice daily in chloroform water.—B.M.J. i./91, 1123; P.J. 1891,1068.

It may be agreeably given as

**Effervescent Ferro-Magnesian Sulphate,** 5 grains in 1 drachm.

*Dose.*—One teaspoonful or more.

**Ferri et Manganesii Citras.**

*Dose.*—3 to 15 grains (0·2 to 1 Gm.).

In reddish-brown scales, freely soluble in water. Has been recommended in solution (1 in 5) for hypodermic injection where rapid absorption is required. Useful in chlorosis, combining the action of the two elements.—L. ii.96,41.

**Ferro-Alumen.** Iron Alum, T.H.—*Syn.* FERRI ET AMMONII SULPHAS, AMMONIO-FERRIC ALUM, U.S. *Dose.*—3 to 10 grains (0·2 to 0·65 Gm.).

Pale amethyst octahedral crystals, efflorescent on exposure to the air, odourless, having an acid, styptic taste, and slightly acid reaction; soluble 1 in 3 of water; insoluble in alcohol. Is used internally to arrest hæmorrhage from the kidneys, and employed as an astringent and styptic gargle—8 grains to an ounce—also as a throat spray and pigment.

## FILIX MAS.

### Male Fern (Off.)

The rhizome of *Aspidium Filix-mas.*

**Acidum Filicicum.** Filicic Acid.

*Dose.*—6 to 15 grains (0·4 to 1 Gm.).

A light, white, amorphous powder, tasteless and inodorous, soluble in alcohol, oils, and alkalis, insoluble in water. Is the active principle of male fern as an anthelmintic. A crystallized acid, now termed *Filicin*, is inactive. —P.J. 1891,84; Pr. xlvii.299.

**Extractum Filicis Liquidum** (*Off.*).

*Dose.*—45 to 90 minims (2·7 to 5·3 Cc.).—B.M.J. i./89,319; L. ii./88,1037.

For tapeworm should be administered fasting, in capsules, or emulsified with about half its weight of compound tragacanth powder, followed by a dose of castor oil.

**Capsules** contain 15 minims (0·9 Cc.) of Liquid Extract. *Dose.*—1 to 4.

**Haustus Filicis Maris**, L.H. Liquid Extract of Male Fern, 1 drachm; Syrup of Ginger, 1 drachm; Tincture of Quillaia, ½ drachm; Distilled Water to 1½ ounces.

**Mistura Filicis**, U.C.H. *Dose.*—1 ounce.

Liquid Extract of Male Fern 1 drachm, Acacia 1 drachm, Chloroform Water to 1 ounce.

Other tæniacides are **Cusso**, **Kousso** (*Off.*), the dried pistillate flowers of *Brayera anthelmintica*, which are administered in dose of ¼ to ½ ounce infused in a cup of boiling water and swallowed without straining; **Kamala** (now discarded from B.P.), the glandular red powder attached to the capsule of *Rottlera tinctoria*; this may be given in dose of 30 to 120 grains suspended in water by means of mucilage or in honey or gruel, and **Cowhage**, **Dolichos Pubes**, the hairs adhering to the pod of *Dolichos* or *Mucuna pruriens*, *dose* 1 or 2 grains in treacle or honey; **Papain**, *v.p.*367; **Thymol Carbonate**, *v.p.*458, but the most efficient tæniacide is **Pelletierine Tannate**, *q.v.p.*373.

## FUCUS VESICULOSUS.

**Bladder Wrack.**—*Syn.* SEA WRACK.

Preparations of this sea-weed, being rich in iodine, bromine, and chlorine salts, have for a long time had the reputation of being useful in reducing corpulence. A liquid extract has been advertised and sold as "Anti-fat."

**Extractum Fuci Vesiculosi, B.P.C.**

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.) before meals, conveniently given in 4-grain pills, with althæa. In 20 powder is exhausted with alcohol 15 per cent. and evaporated.

**Extractum Fuci Vesiculosi Liquidum, B.P.C.**

*Dose.*—1 or 2 drachms (3·5 to 7 Cc.) before meals.

Pills, 4 grains in each, three times a day, given for obesity, acted as a diuretic; did not diminish the weight. —B.M.J. ii./79, 315.

A lady lost 20 lb. in 9 weeks when taking the liquid extract; and a gentleman 8 lb. in 6 weeks; another 8 lb. in 3 weeks, without bad results.—B.M.J. ii./79, 482.

## GELATINUM (*Off.*).

**Gelatin.** Gelatina Alba, **P. G. iv.**

*Dose.—Ad libitum.*

Aortic aneurism relieved by subcutaneous injection of solution 1 or 2 per cent.—B.M.J. ii./00,1498.

**Tubes** of sterile concentrated **Saline Gelatin Solution** are prepared for injection into the gluteal region as a hæmostatic.

A 1 or 2 per cent. solution of gelatin, or 20 grains with cerebos salt in 5 ounces of water as an injection give good results.—L. ii./00,772; B.M.J.E. i./01.55.

Use not free from danger, may cause uræmia.—B.M.J.E.ii./00.71. Of only temporary success, i./01.27.

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## GELSEMII RADIX (*Off.*).

*Syn.* Gelseminum.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

The dried rhizome and roots of "yellow jasmine"—*Gelsemium nitidum* (*G. sempervirens*, Aiton)—imported from the United States, must be distinguished from the yellow jasmine cultivated here, which is a species of *Jasminum*. Gelsemium is said to have febrifuge properties, as it lowers the pulse and depresses the nervous system. It has been much used in acute and rheumatic neuralgia, and toothache. It is a powerful paralyzer, as well as tetanizer, and respiratory poison. Large doses contract the pupil and cause giddiness and diplopia. The first principle, Gelsemine, obtained from it, consisted of at least two alkaloids combined with gelsemic acid.

**Gelsemina,** Gelsemine (Pure Alkaloid).

*Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain (0·0011 to 0·0032 Gm.).

Yellowish-white minute crystals, with a bitterish taste, odourless, sparingly soluble in water, easily soluble in alcohol, ether, and dilute acids. This forms crystalline salts, but appears to be devoid of mydriatic properties, and to be less toxic than Gelseminine, another alkaloid, the Hydrochloride of which dilates the pupil, but has not as yet been crystallized.—Pr. li.38; P.J. 1893.985.

**Liquor Gelseminինæ Hydrochloridi.**

Gelseminine Hydrochloride 1, Water 60.

This solution is recommended for quickly dilating the pupil previous to ophthalmoscopic examination.

Has fallen into disuse, being replaced by homatropine.

**Ophthalmic discs** contain $\frac{1}{500}$ grain **Gelseminine** combined with gelatin.

**Gelseminæ Hydrochloridum, Gelsemine Hydrochloride.** *Dose.*—$\frac{1}{50}$ to $\frac{1}{20}$ grain (**0·0011 to 0·0032 Gm.**)—See above.

In white, granular crystals, freely soluble in water.

**Gelsemin.** *Dose.*—$\frac{1}{2}$ to 2 grains (**0·032 to 0·13 Gm.**) in a pill, with spirit and glycerin.

The powdered alcoholic extractive of a pale brown colour obtained from Gelsemium root. Useful in neuralgia and as an hypnotic. *Must be distinguished from the alkaloids.*

Case of severe toxic symptoms following $\frac{1}{10}$ grain gelsemine hydrochloride, given instead of gelsemin. B.M.J. i./89, 355.

**Extractum Gelsemii Alcoholicum, B.P.** 1885.

The powdered drug was percolated with rectified spirit, displaced with water, and the tincture evaporated to an extract. Was intended as the official equivalent of Gelsemin (see above).

*Dose.*—$\frac{1}{2}$ to 2 grains (**0·032 to 0·13 Gm.**).

**Pilula Butyl-Chloral cum Gelsemina,** *v.p.*112.

**Tinctura Gelsemii** (*Off.*).

Gelsemium in No. 40 powder 2, Alcohol (60 per cent.), *q.s.* to 10. Percolate.

*Dose.*—5 to 15 minims (**0·3 to 0·9 Cc.**), often combined with bromide of ammonium or potassium for neuralgia. The tincture has a pale brown colour and a fluorescent surface.

Neuralgia of face and jaws associated with carious teeth—15 minims of the tincture every 6 hours rarely fails to give relief.—Pr. xv.115; L.i./73,731; B. and F.M.C.R. lvii.474.

Death from 2 ounces of tincture.—L. i./82,74.

Case of traumatic tetanus treated by Gelsemium with recovery.—B.M.J. ii./82,1245; B.M.J. i./83,9.

Paralysis of muscles and dilatation of pupils after taking 10 minims of tincture every 3 hours during a day, and about 80 minims during the night. Treated by strychnine hypodermically ($\frac{1}{120}$ grain repeated).—B.M.J. ii./91,644; Pr. xlviii.49.

Nitroglycerin a rapid and perfect antidote.—M.P.C. i./86, 493; B.M.J. ii./91,724.

Disordered vision may follow even moderate doses. B.M.J. i./01,640.

## GINGERIN.

*Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.), in a pill or much diluted with spirit.

In commerce this is the crude liquid oleo-resin obtained from ginger, the rhizome of *Zingiber officinale*. It has the colour and consistence of treacle, with an aromatic and very pungent taste. Is a useful addition to purgative pills as a corrective to prevent them griping.

**Tinctura Carminativa, B.P.C.**

Cardamom Seeds, bruised, 600 grains, Essence of Ginger 1¼ ounces (B.P. 1885), Oil of Cinnamon 100 minims, Oil of Caraway 100 minims, Oil of Clove 100 minims. Macerate the Cardamoms in 15 ounces of Alcohol (90 per cent.) for a week, decant, express, and dissolve the oils in the mixed tinctures, adding Alcohol (90 per cent.) *q.s.* to one pint. *Dose.*—2 to 10 minims (0·12 to 0·6 Cc.).

**Tinctura Zingiberis Fortior, Essence of Ginger, B.P.C.**, Ginger 1, in Alcohol (90 per cent.) 2. *Dose.*—5 to 20 minims.

## GLYCERINUM.

### Glycerin (*Off.*).

*Dose.*—1 to 2 drachms (3·5 to 7 Cc.).

### *Preparations—Official.*

| | |
|---|---|
| Glycerinum Acidi Borici (*v.p.*4) ... ... | 6 in 20 |
| Glycerinum Acidi Carbolici ... ... | 1 in 5 |
| Glycerinum Acidi Tannici ... ... | 1 in 5 |
| Glycerinum Aluminis ... ... ... | 1 in 6 |
| Glycerinum Amyli (heated) | 1 to Glycerin 6½, Water 1½ |
| Glycerinum Boracis ... ... | 1 to Glycerin 6 |
| Glycerinum Pepsini (*v.p.*374) ... | |
| Glycerinum Plumbi Subacetatis (*v.p.*254). | |
| Glycerinum Tragacanthæ (*v.p.*460). | |

Stronger solutions of carbolic and tannic acids are sometimes preferred. As a throat pigment, and for uterine application, that of tannic acid may be used double the above strength—1 to 2 of Glycerin (*Pigmentum Acidi Tannici, G.H*). Glycerin of borax is not a mere solution; it has an acid reaction, and when mixed with an alkaline carbonate evolves carbonic acid; it is useful in infantile diarrhœa, in doses of 20 minims, repeated according to age.—L. ii./89.739.

Glycerin of Starch improved by addition of tragacanth 1 to 400 parts.—P.J. i./97.201.

Glycerinum Aluminis is a useful astringent pigment in chronic pharyngitis; is less disagreeable than tannin.—B.M.J. i./85,178.

Half an ounce of Glycerin alone, or with one-third part of water added, forms a useful enema for constipation.—L. i./88,38. **Suppositories** (*v.p.* 256).

Two drachms injected into the rectum lessens the size of piles.—B.M.J. i./89,241.

Injections of two drachms also useful in infantile diarrhœa.—Pr. xli.418; P.J. 1888,507.

In Nephrolithiasis. *Dose.*—1 to 4 ounces. Results good.—P.J. i./00,221.

**Boroglyceride.**—See Acidum Boricum, *v.p.* 4.

**Gelato-Glycerin, T.H.**

Gelatin 5, Water 6, dissolve, add Glycerin (by weight) 6, and evaporate to produce 15. Used as a base for nasal and urethral bougies. Is firmer than Glyco-Gelatin.

**Glycerin Jelly,** for toilet use.

Gelatin 140 grains, Rose Water 6 ounces; soak a few minutes, and heat in a water-bath to dissolve; add, when cool but still fluid, White of Egg ¾ ounce. Heat to coagulate completely, and add Glycerin 6 ounces, Salicylic Acid 12 grains. Mix well, filter through a hot-water funnel, and bottle while warm. A harder jelly, for microscopic purposes, is prepared in a similar manner.

**Glycerinum Aluminis et Acidi Tannici.**

Potassium Alum (free from iron), in powder, 1, Glycerin 6. Heat to dissolve, and add Tannic Acid 1.

This forms a solution which is a very astringent throat pigment; has the advantages of a gargle without destroying the appetite. An ounce to a pint of tepid water forms a useful astringent vaginal injection.

**Glycerinum Belladonnæ.**—Belladonna, *v.p.* 101.

**Glycerinum Bismuthi Nitratis.**

Bismuth Nitrate, in crystals 1 (true nitrate), Glycerin 8, Dissolve without heat. Used as stimulant application in eczema.—P.J. 1874,389,470,484,508.

**Glycerinum cum Aqua Rosæ.**

Glycerin 2, Rose Water, prepared with Otto, 3. Mix. An agreeable emollient for the skin.

**Glycerinum Ferri Dialysati,** *v.p.*242.

**Glycerinum Hydrargyri Perchloridi** contains $\frac{2}{3}$ grain in 1 minim, *v.p.*269.

**Glycerinum Iodi.**—Iodum, *v.p.*300.

**Iodo-Glycerin Solution.**—Iodum, *v.p.*300.

**Glycerinum Plumbi Subacetatis** (*Off.*).

This is of the same strength as Goulard's Extract Liquor Plumbi Subacetatis Fortis (*Off.*), with glycerin for the solvent in place of water; it keeps much better than and does not deposit like the latter.—P.J. 1876,881.

Useful in chronic eczema. It should first be applied diluted 1 part with about 7 of glycerin, and the strength gradually increased; it desiccates the eruption without producing a hard crust. It may also be diluted with four parts of milk as a lotion for eczema, but this Lotion,

**Lotio Plumbi cum Lacte** is generally made with liquor plumbi subacetatis, 1 or 2 drachms to the ounce of milk, with a little Eau de Cologne added.—Br. ii./82,225.

**Liquor (or Lotio) Plumbi Lactatis, West. H.** has 1 part of Solution of Lead Oxyacetate to 15 of Milk, but it is more frequently used about 1 to 9. (Mid. H. adds Salicylic Acid 1 grain to each ounce).

The glycerole has also been found useful, in some uterine affections, applied on absorbent wool, diluted as above.

**Unguentum Glycerini Plumbi Subacetatis,** Lead Subacetate Ointment (*Off.*).

Glycerin of Lead Subacetate, by weight, 1, Paraffin Ointment, white, 5. Mix.

Useful in chronic eczema, ulcerated legs, and in tinea tarsi.

**Unguentum Zinci Compositum, R.O.H.,** Ointment of Zinc, Ointment of Glycerin of Lead Subacetate, of each equal parts. Rub well together.

**Glycerinum Resorcini, G.H.,** *v.p.*421.

**Glycerinum Tragacanthæ** (*Off.*).—See Tragacantha, *v. p.* 460.

**Glyceritum Vitelli, U.S. Glyconin.**

Rub Yolk of Egg, 45, with Glycerin (by weight) 55, gradually added until thoroughly mixed. Used for emulsifying oils and applied to burns, fissures, and cracked nipples.

**Glycero-alcohol.**

*Dose.*—5 to 60 minims (0·3 to 3·5 Cc.)

Glycerin 333, Distilled Water 146, Alcohol, 95 per cent., *q.s.* to measure 1000. In Paris is recommended as a solvent of alkaloids and active principles, as it keeps indefinitely and does not evaporate. 50 drops from a *compte-gouttes* = 1 Cc. It has Sp. Gr. about 1.

**Glyco-gelatin, T.H.**

Refined Gelatin 1 ounce, Glycerin (by weight) 2½ ounces, Ammoniacal Solution of Carmine *q.s.*, Orange Flower Water 2½ ounces. Soak the gelatin in the water for two hours, then heat in a water-bath till dissolved, add the glycerin, and stir well together. Let the mixture cool, and when nearly cold add the carmine solution, mix till uniformly coloured, and set aside to solidify.

Glyco-gelatin affords a ready method of prescribing lozenges to meet the requirements of individual cases; one ounce of the mass will make twenty-four pastils; it is medicated by melting in a water-bath, and the medicament added; or this, if insoluble, is first rubbed with a little glycerin, and then mixed with the hot basis, and cooled by pouring into an oiled tray, and, when solidified, cut into the required number of pastils. Pastils are specially suited to cases of inflammation of the tongue or palate, and their gelatinous nature gives much relief in dryness of the throat. The following list may be kept prepared :—

| | | |
|---|---|---|
| Pastillus | Acidi Borici, T.H. ... | gr.2 |
| " | Acidi Carbolici, T.H. ... | gr.½ |
| " | Aconiti Tinct. ... ... | m.i. |
| " | Ammonii Chloridi, T.H. | gr.2 |
| " | { Apomorphinæ ... ...<br>{ Codeinæ ... ... | gr.$\frac{1}{32}$ }<br>gr.$\frac{1}{10}$ } |
| " | Bismuthi Carbonatis, T.H. | gr.3 |
| " | { Bismuthi Carbonatis, T.H.<br>{ Morphinæ Acetatis ... | gr.3 }<br>gr.$\frac{1}{40}$ } |

| | | |
|---|---|---|
| Pastillus | Bismuthi Carbonatis, T.H. | gr.3 |
| | Potassii Chloratis ... | gr.2 |
| „ | Cascara Sagrada ... | gr.$2\frac{1}{2}$ |
| „ | Cocæ Extracti ... ... | gr.$2\frac{1}{2}$ |
| „ | Cocainæ Hydrochloridi | gr.$\frac{1}{10}$ |
| „ | Cocainæ gr.$\frac{1}{15}$ et Morphinæ | gr.$\frac{1}{30}$ |
| „ | Codeinæ, T.H. ... ... | gr. $\frac{1}{8}$ |
| „ | Eucainæ β. ... ... | gr.$\frac{1}{10}$ |
| „ | Heroin ... ... | gr.$\frac{1}{24}$ |
| „ | Hydrargyri Perchloridi ... | gr.$\frac{1}{20}$ |
| | Potassii Chloratis ... | gr.3 |
| „ | Iodoformi, T.H. ... | gr.1 |
| | (more or less if prescribed.) | |
| „ | Menthol, T.H. ... ... | gr. $\frac{1}{6}$ |
| „ | Morphinæ Acetatis ... | gr.$\frac{1}{30}$ |
| „ | Potassii Chloratis ... | gr.2 |
| „ | Sulphuris Precipitati ... | gr.5 |
| | Potassii Tartratis Acidi | gr.1 |
| „ | Thymol ... ... | gr.$\frac{1}{32}$ |

**Suppositoria Glycerini**, **Glycerin Suppositories.** (*Off.*). Soak Gelatin, ½ ounce, in Distilled Water, *q.s.* for a minute, and pour away the excess; then add Glycerin, by weight, $2\frac{1}{2}$ ounces dissolve in a water-bath and evaporate to 1,560 grains. Pour into moulds of 30, 60, or 120 grain-measures, or other capacities as required. Contain 70 per cent. by weight of Glycerin. This basis may be used for gelatin **pessaries.**

**Suppositoria cum Glycerino.** Arzn. **Glycerin with Soap Suppositories.**

Sodium Carbonate 15, Glycerin 470; heat to dissolve; add Stearic Acid 25. Continue heat with agitation until combined and frothing ceases. Pour into moulds. Wrap the suppositories in tinfoil and keep in bottles.

**Suppositoria Glycerini, P.Aus.Add.**

Are similar with two-thirds the quantity of Glycerin, used in last formula, and weigh 2 and 3 grammes.

**Hollow Suppositories,** composed of Oil of Theobroma. May be filled with 20, 45, or 90 grains of Glycerin; they are more prompt in action than either of the above.

**Hollow Suppositories** and **Pessaries** may also be filled with **Bismuth** and **Cocaine Ointment, Gall** and **Opium Ointment, Liquid Extract** of **Hamamelis, Hamamelis Ointment.**

# GLYCYRRHIZA.

## Liquorice (*Off.*).

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.) or more.

The peeled root and subterranean stem of *Glycyrrhiza glabra.*

**Extractum Glycyrrhizæ** (*Off.*).

*Dose.*—5 to 60 grains (0·32 to 4 Gm.).

**Extractum Glycyrrhizæ Liquidum** (*Off.*).

By cold exhaustion 1 = 1, contains $\frac{1}{5}$ of its volume of 90 per cent. alcohol. *Dose.*—$\frac{1}{2}$ to 1 drachm (1·8 to 3·5 Cc.).

**Extractum Glycyrrhizæ Spirituosum, I.C. Add.** *Dose.*—$\frac{1}{2}$ to 1 drachm.

Extract of Liquorice 2, Alcohol (90 per cent.) 1, Water *q.s.* to 4. Keeps better than last preparation.

**Glycyrrhizinum Ammoniatum.**—Ammoniated Glycyrrhizin, U.S. *Dose.*—$\frac{1}{2}$ to 5 grains (0·032 to 0·32 Gm.).

Glycyrrhizin, the sweet principle of liquorice, is precipitated, from solution in water, by acids. Being contained in the root as an ammoniacal compound, it forms garnet-coloured, shining scales when precipitated, purified, recombined with ammonia, and dried on glass plates; these possess the persistent sweet taste of liquorice. A grain will flavour 6 ounces of water.—P.J. 1875,53.

The before-mentioned preparations of liquorice are useful for covering the taste of nauseous drugs given in a liquid form, such as ammonium chloride, magnesium sulphate, quinine sulphate, ipecacuanha, and aloes. In tincture of aloes, liquorice effectually disguises the bitter taste; it is also added, for the same purpose, to Mistura Sennæ Composita, Decoctum Aloes Compositum, Confectio Sennæ, and as a demulcent was used in Infusum Lini, B.P. 1885.

In addition to the official extracts, dried extracts are largely imported from Italy and Spain, known as Liquorice Juice or Spanish Liquorice, that bearing the stamp of Solazzi being most prized. There are also prepared in England, Liquorice Lozenges, known as Pontefract Cakes, and the same substance in sticks about the thickness of a quill known as Pipe Liquorice. They are demulcent and useful in allaying tickling coughs.

Trochisci Ammonii Chloridi cum Glycyrrhiza, *v.p.* 69.

**Pulvis Glycyrrhizæ Compositus** (*Off.*).

*Syn.* PULVIS LIQUIRITIÆ COMPOSITUS, P.G.; PULVIS PECTORALIS (*Kurellæ*).

Senna and Liquorice of each 2 (1½ P.G. iv.), Fennel 1, Sublimed Sulphur 1, White Sugar 6 (5 P.G. iv.). Mix.

*Dose.*—1 to 2 drachms (3·5 to 7 Gm.), mixed with water or milk, taken early in the morning, is a mild and agreeable laxative. For constipation and hepatic disease, it is pleasant to take, and effectual without catharsis.—Pr. viii.276. U.S. uses oil of fennel, which makes the preparation less granular.

Suggested to substitute anise for fennel, and to add one-fourth as much ginger.—L. ii./86,627.

## GOKHRU.

*Syn.* GOKEROO (*Hindi*).

The fruit of *Pedalium Murex.* It is employed in India as a remedy for nocturnal seminal emissions, incontinence of urine, and impotence.—Pr. xvii.381.

The capsule is very prickly, and both it and the seeds are rich in mucilaginous matter.

**Infusum Gokhru.**

Gokhru Fruit 1, Boiling Distilled Water 20. Macerate 2 hours and strain, pouring over the contents of the strainer water *q.s.* to produce 20; a pint forms a daily dose, and should be freshly prepared.

The fruit of **Tribulus terrestris**, which somewhat resembles the above, is also known by the name of Gokhru in India.

## GOSSYPIUM.

**Cotton** (*Off.*).—*Syn.* **Cotton Wool.**

Beside **Pyroxylin** (*Off.*). **Gun Cotton**—the following preparations of cotton are in use:—

**Gossypium Absorbens**, now the *official* **Cotton**, is much employed as a wound-dressing. It is prepared by alternately treating bleached cotton with diluted hydrochloric acid and solution of soda and well washing afterwards. A sheet of this wool between layers of gauze is sold as **Absorbent Gauze and Cotton Wool**

**Tissue**; the same made into **Balls** is recommended in place of sponges.—L. i./83,1003.

**Gossypium Acidi Carbolici,** *v.p.*11.

**Gossypium Acidi Salicylici,** 4 and 10 per cent. —Acidum Salicylicum, *v.p.*32.

**Gossypium Iodoformi,** 10 and 50 per cent.—Iodoform, *v.p.*292.

In T.H. the following are recommended for aural fections:—Gossypium Acidi Borici, containing 50 per ent.; Gossypium Acidi Tannici, 30 per cent.; Gossypium lembroth, 2 per cent.; Gossypium Aluminis, 30 per ent.; Gossypium Camphoræ, 33 per cent.; Gossypium ubebæ; Gossypium Eucalypti; Gossypium Ferri erchloridi; Gossypium Hamamelidis; Gossypium Iodi; ossypium Iodoformi, 50 per cent.; Gossypium Krameriæ; ossypium Menthol; Gossypium Opii.

**Tela depurata, P.G. iv.**

Cotton Gauze or Mull, purified, 100 Cm. wide, a square etre weighing at least 30 Gm. and containing 24 threads n a square Cm.

**Carbasus Aseptica.** Sterilised Gauze, G.H.

Gauze rendered aseptic by superheated steam.

**Gossypii Radicis Cortex, I.C. Add.,** *v.p.*xxvi.

**Extractum Gossypii Radicis Corticis.**—A semi-alcoholic preparation. *Dose.*—1 to 4 grains (0·065 to 0·26 Gm.), in pill.

**Pilula Gossypii Composita.**

Extract of Cotton Root, Extract of Hydrastis, rgotin, of each 1 grain (or 1 gramme divided into 15 ills). *Dose.*—One, three or four times a day. Useful or congestive dysmenorrhœa.

**Extractum Gossypii Radicis Corticis Liquidum, I.C. Add.,** *v.p.*xxvi.

*Dose.*—½ to 1 drachm.

The bark exhausted with a mixture of Glycerin 1, Alcohol (90 per cent.) 3; 1=1.

**Tinctura Gossypii Radicis.**

Dried bark of root of cotton plant 1, proof spirit 4.

*Dose.*—1 drachm (3·5 Cc.) 3 times a day as an mmenagogue and parturient.

An infusion is often preferable to ergot in labour.—L. ii./84,558.

Preparations of the root possess hæmostatic power. L. ii./94,1298.

# GRINDELIA.

## Gum Plant.

The dried herbs *Grindelia robusta* and *G. squarrosa*—the latter is most commonly used—form the Californian remedy for asthma. In America, this drug has been found very useful in reducing the frequency and violence of the spasmodic attacks which occur in asthma, whooping-cough, and bronchitis.—B.M.J.ii./87,1356.

The involucre, and often the leaves, are coated with a glutinous oleo-resin.

**Extractum Grindeliæ** (Alcoholic).

*Dose.*—2 to 3 grains (0·13 to 0·2 Gm.) in a pill with lycopodium, three times a day.—R.

**Extractum Grindeliæ Liquidum, I.C. Add.**

Exhaust herb with alcohol (90 per cent.), distil, add Sodium Bicarbonate to residue and water *q.s.* with alcohol (90 per cent.) one fourth to make 1 = 1.

*Dose.*—10 to 20 minims (0·6 to 1·8 Cc.) at the onset of a paroxysm of asthma, repeated every half-hour or hour, in sweetened water or milk, else the resin separates and sticks to the vessel. Useful for whooping-cough, 10 minims every 2 hours.—P.J. 1878,582; L. i '90,565.

In emphysematous asthma.—L. i. 86,658,991.

Note on its use in heart diseases, it slows and regulates the pulsations.—Ed M.J.1888,80; P.J.1886,919.

**Mistura Grindeliæ, G.H.**

Liquid Extract of Grindelia 30 minims, Liquid Extract of Liquorice 1 drachm, Spirit of Chloroform 5 minims, Mucilage Mixture (*v.p.* 77) to 1 ounce.

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# GUARANA.

## Guarana.

*Dose.*—10 to 60 grains (0·65 to 4 Gm.) in powder, or infused in a cup of boiling water.

The seeds of *Paullinia Cupana* (*P. sorbilis*), roasted and moistened with water, made into a hard paste, rolled into cylinders, and dried. Imported from Brazil. The drug contains about 5 per cent. of a crystalline alkaloid **Guaranine,** which is identical with caffeine, together with tannin, gum, &c. Guarana has been particularly recommended for sick-headache. Guaranine may be taken as caffeine. *Dose.*—½ to 5 grains (0·032 to 0·32 Gm.), or more.

**Elixir Guaranæ, B.P.C.**

Guarana, in No. 60 powder, 4 ounces, Light Magnesia ½ ounce, Oil of Cinnamon 6 minims, Syrup 2 ounces, Proof Spirit, a sufficient quantity.

Mix intimately the powders, and moisten them with three ounces of proof spirit. After twenty-four hours' maceration, mix with eight ounces of coarse sand, and pack in a percolator; pass through proof spirit until sixteen ounces are obtained, then transfer the mass to a press-bag and apply pressure. To the percolate add the syrup and oil of cinnamon, and make up to one pint by addition of the expressed liquid, previously reduced by evaporation if necessary.

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

**Tinctura Guaranæ.**

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Macerate Guarana 1 ounce, in proof spirit, *q.s.* to produce 4 ounces.

Useful in sick-headache.—B.M.J. i./72,421.

Contains double as much caffeine as tea, and five times as much as coffee; is a nervine tonic.—L. ii./70,581.

For sick-headache, 30 to 60 grains is a certain remedy. Useful also in diarrhœa and dysentery.—L. ii./72,313,507; Pr. xlv. 60; Th. Gaz. 1890,287.

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## HÆMATOXYLI LIGNUM.

### Logwood (*Off.*).

The unfermented heart-wood of *Hæmatoxylon campechianum.*

**Decoctum Hæmatoxyli** (*Off.*).

*Dose.*—½ to 2 ounces (15 to 60 Cc.).

Logwood in chips 50, Cinnamon Bark 8, Water 1,000. Boil 10 minutes.

A valuable remedy for diarrhœa and some forms of urinary hæmorrhage.

**Extractum Hæmatoxyli Liquidum, B.P.C.**

| | |
|---|---|
| Unfermented logwood, in No. 16 powder | 20 ounces. |
| Alcohol (90 per cent.) ... ... | 3 ounces. |
| Distilled water ... ... ... | 6 pints. |

Boil the logwood with the water in three successive portions for half-an-hour each; mix the liquors, strain, and evaporate to 17 ounces; add the achohol. Set aside for 7 days and decant from any sediment.

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.). Contains the hæmatoxylin and all the natural astringent properties of the wood unchanged.—P.J. 1887,285.

**Hæmatoxylin.** Usually met with in yellowish granular crystals, slowly and sparingly soluble in water, easily soluble in alcohol. Is much used for staining histological specimens, *v.pp.*547,549.

## HAMAMELIDIS CORTEX ET FOLIA.

### Witch Hazel Bark and Leaves (*Off.*).

The bark and leaves, fresh and dried, of *Hamamelis virginiana*, Witch Hazel, imported from the United States of America, possess powerful astringent properties, and are used for checking hæmorrhages and excessive mucous discharges. They form the basis of the American specialties—Pond's Extract (*dose*, 10 drops half-hourly), and Hazeline (*dose*, ½ to 3 drachms).

**Extractum Hamamelidis Destillatum.**

*Syn.* SPIRITUS HAMAMELIDIS.

*Dose.*—½ to 3 drachms (1·8 to 10·5 Cc.), and used externally. A weak alcoholic distillate, equivalent to the preceding preparations. Useful in hæmorrhoids. Now made official as

**Liquor Hamamelidis** (*Off.*).

Fresh Leaves 5, Water 10, Alcohol (90 per cent.) 1. Macerate 24 hours and distil one-half.

**Extractum Hamamelidis Liquidum** (*Off.*).

Hamamelis Leaves, in No. 40 powder, are percolated with 45 per cent. alcohol. The first portion of percolate is set aside, and the other after concentration is mixed with it, so that 1 = 1 of leaves. *Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

**Hamamelin.**—*Syn.* Hamamelidin.

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) in pill. It is the powdered extractive from the above of a purplish-brown colour. A suppository of 1 to 3 grains with cacao butter is useful for piles.

**Tinctura Hamamelidis** (*Off.*).

Bark, in No. 20 powder 1, Alcohol (45 per cent.) *q.s.* to 10. *Dose.*—30 to 60 minims (1·8 to 3·5 Cc.).

A valuable hæmostatic, very serviceable in hæmoptysis, hæmorrhoids, menorrhagia, in fact in all passive hæmorrhage, and what is known as the hæmorrhagic diahesis. As an injection for bleeding piles, 1 drachm of the tincture in 3 ounces of cold water should be given as an enema, and retained, at bedtime or before breakfast, every day; or the following ointment applied locally.—R.

A lotion of 1 or 2 drachms with water to an ounce, is a useful application to bruises and small wounds.

**Unguentum Hamamelidis** (*Off.*)

Liquid Extract of Hamamelis 1, Hydrous Wool Fat 9. Used as an ointment for piles.

Witch Hazel plasters are also made in rubber combination for covering varicose veins.

Menorrhagia is controlled by 1 drachm of hazeline three times a day.—Pr. xxxiii.141.

In menorrhagia, given without obvious advantage.—B.M.J. ii./84,810.

Report of an investigation committee of the British Medical Association.—B.M J. i./87,795.

Liquid preparations useful for hæmorrhoids, applied on sheep's wool.—B.M.J. i./81,965; i/92,542; L. i./92,583; Pr. xlviii. 378.

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## HYDRARGYRUM.

## Mercury (*Off.*).

**Injectio Hydrargyri Hypodermica.** — *Syn.* **Grey Oil.** [Use unsatisfactory, has caused cellulitis.]

Mercury 39, Mercurial Ointment 2, Vaseline Oil 59. *Dose.* 1 to 2 grains daily for syphilis.—B.M.J. i./88, 1296; B.M.J.E. ii./91,101; ii./98,108.

**Hyrgol, Hydrargyrum Colloidale.**—A specialty. A water-soluble quicksilver, containing between 73 and 80% of mercury. A 10% ointment recommended for inunction; doubtful use hypodermically.—L. i./00,1450.

**Lanolinum Hydrargyri,** *v.p.*317.

**Linimentum Hydrargyri** (*Off.*).

Strong Solution of Ammonia 10, Camphor Liniment *q.s.* to 45. Mercury Ointment 30, Camphor Liniment *q.s.* to 45 (fluid). Mix the two liquids.

**Mercuric Ethylene-diamine Salts** (Patented).

Are said to have great penetrating power as antiseptics for the hands and skin previous to operations. The Citrate is non irritating, not coagulating albumen. 1 in 3000 of water = 1 in 1000 of Sublimate. Tablets and 10% Solution prepared, also Hydrochloride and Sulphate.—B.M.J. i./01,912.

**Mercuriol.**—*Syn.* MERCURAMALGAM.

An amalgam of aluminium, magnesium and mercury, the latter to the extent of 40 per cent. It is an amorphous powder from which the mercury volatilises under influence of warmth, air and moisture. For syphilitic affections, carried as sachet.—P.J. i./00,2; B.M.J. i./00,579.

**Mercurol,** *v.p.*136.

A combination of mercury with nuclein. Used for gonorrhœal injections, ½ to 2 per cent. solutions.—L. i./00,1450; P.J. i./00,95. Use in urethritis.—L. ii./00,871. Antiseptic use in the diseases of the nose and ear.—L. ii./00,1726.

**Unguentum Hydrargyri** (*Off.*).

Mercury 16, Lard 16, Suet 1, Mix S.A. Principally used for mercurial inunction in syphilis.

**Unguentum Hydrargyri Compositum** (*Off.*).

Mercury Ointment 10, Yellow Beeswax 6, Olive Oil 6, Camphor Flowers 3. *Scott's Dressing, modified.*

**Unguentum Hydrargyri Mitius, B.P.C.; P.L. 1836, Blue Unction.** Mercurial Ointment 1, Lard 2, Mix. Used for destroying *Pediculus pubis.*

**Plaster Mulls** of **Mercury,** and various combinations, *v.p.*528.

**Hydrargyri Benzoas. Mercuric Benzoate.**

A white crystalline powder, insoluble in cold, slightly soluble in warm water. Recommended for hypodermic injection in solution with chloride of sodium and cocaine; this should be freshly prepared.—B.M.J. i./90,1087; L. ii./91,505.

**Hydrargyri Carbolas, Mercury Carbolate, Phenol Mercury.** *Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) daily. A whitish amorphous powder, obtained by double decomposition of mercuric chloride and an alcoholic solution of phenol in caustic potash. In pills, ⅓ grain each. *Dose.*—2 to 6 daily.—L. i./87,943; ii./87,277; P.J. 1887,685.

An orange-coloured basic salt is also prepared, but the neutral salt is preferred.

**Hydrargyri Cyanidum, Mercuric Cyanide.**

*Syn.* MERCURY BICYANIDE.

*Dose.*—$\frac{1}{20}$ to ¼ grain (0·0032 to 0·016 Gm.).

Is in anhydrous, white or colourless, prismatic crystals, soluble 1 in 8 of water. It is not decomposed by alkalis; is poisonous, and has a nauseous metallic taste. It is used as a lotion to syphilitic sores, and given in pills of $\frac{1}{10}$ or $\frac{1}{12}$ grain twice daily. Used in diphtheria, $\frac{1}{250}$ grain frequently, with 1 minim Tincture of Aconite, in honey, using also a gargle, 1 in 10,000.—L. i./88,591, 1063.

Intravenous injections of 1 per cent. solutions of mercuric cyanide recommended in syphilis.—B.M.J. ii./96,1702; L. i./99,432.

**Mercuro-Zinc Cyanide.** A white powder obtained by precipitation from a cold saturated solution of the cyanide of mercury and potassium by adding a cold saturated solution of zinc sulphate in equi-molecular proportions, or by adding in similar solutions mercuric chloride to zinc and potassium cyanide. In this powder the two cyanides are combined in the proportion of 4 molecules of zinc cyanide and 1 of mercuric cyanide; of the latter it should contain 40 per cent.

Is recommended by Lord Lister tinted with rosolane, as an unirritating antiseptic, and to impregnate gauze, also to form ointments for eczema and other skin affections, in place of oxide of zinc.—P.J. 1890,653; 1892,769; L. i./90,415; B.M.J. i./90,441.

Use satisfactory.—B.M.J. ii./90,379. Four years' experience.—L. i./93,345; B.M.J. i./93,337.

**Cream of Mercuro-Zinc Cyanide** may be made by triturating the powder with carbolic lotion, 1 in 20, *q.s.*, for applying to hairy parts adjacent to wounds.—L. i./93,347.

**Mercuro-Zinc Cyanide Paste.** Mercuro-Zinc Cyanide 400, Tragacanth 1, Phenol 20, Water 800. Mix, for a first wound-dressing in war.

**Mercuro-Zinc Cyanide Gauze.** In 6 and 12 yards. Contains 3 per cent. by weight of the above, and is tinted with carbolic solution of rosolane. Before use it is damped with carbolic lotion, 1 in 20 (sublimate solution is not compatible with it).—L. ii./89,943; i./90,1; i./93,346; B.M.J. ii./89,1028; i./90,1; i./93,337; P.J. 1889,389. Use in hepatic abscess.—B.M.J. i./90,61. A **Wool** contains 3 per cent.

Salivation from dressing wound with cyanide gauze.—L. ii./96,1147. Leading to experiments on the solubility of the cyanide, especially soluble in solution of borax.—P.J. ii./96,382.

**Unguentum Hydrargyri et Zinci Cyanidi, R.O.H.** 1 or 2 in 100 of Soft Paraffin or Lanoline.

**Hydrargyri Gallas. Mercurous Gallate.**

*Dose.*—$\frac{1}{2}$ to 1 grain (0·032 to 0·065 Gm.) in pill, with extract of gentian, 3 or 4 times daily.

A dark green insoluble amorphous powder, useful in primary and secondary syphilis, as its absorption is rapid without purging.—P.J. 1893,182.

**Hydrargyri Iodidum Rubrum, Mercuric Iodide** (*Off.*). **Mercury Biniodide.**

*Dose.*—$\frac{1}{32}$ to $\frac{1}{16}$ grain (0·002 to 0·004 Gm.).

Soluble in solutions of other iodides, forming double salts; also 1 in 25 of castor oil; or 100 parts of the latter will dissolve 8 of this iodide with 5 of perchloride of mercury.—P.J. 1885,327; B.M.J. i./87,789. Is a powerful antiseptic.—B.M.J. ii./87,78; L. ii./87,1163.

In solution with sodic chloride is valuable as an injection for gonorrhœa.—B.M.J. ii./87,754; and as a pigment for throat in scarlatina and diphtheria.—B.M.J. ii./87,508,613,754. Also as spray.—B.M.J. ii.89,1276 ii./91,834. **Gauze** contains 2 and **Wool** $\frac{1}{4}$ per cent.

**Injectio Hydrargyri Iodidi Rubri Hypodermica.**—(Ragazzoni). *Dose.*—2 to 6 minims. Mercuric Iodide 1 grain, Sodium Iodide *q.s.*, in 64 minims.

**Mercuric Iodide Oil. Hydriodol.** —*Syn.* **Cypridol.**

A specialty contains 1% of the Iodide in sterilised oil, for hypod. injection by syringe with screw piston. *Per os* **Capsules** contain of the Oil = $\frac{1}{32}$ and $\frac{1}{16}$ grain of Mercuric Iodide; slowly absorbed by the biliary and pancreatic secretions, the Oil does not prove irritating to the digestive organs.

**Liquor Arsenii et Hydrargyri Iodidi,** *v.p.*84.

**Pilula Arsenii et Hydrargyri Iodidi.**

*Dose.*—1 or 2, two or three times a day.

Arsenious Iodide, Mercuric Iodide, of each 1 grain, Distilled Water *q.s.* to dissolve, Sugar *q.s.* to make 12 two-grain pills (or 1 Gm. of each Iodide in 180 pills). May be combined with 2 grains of Iodide of Iron pill.

**Hydrargyri et Potassii Iodidum, Potassio-Mercuric Iodide.**

*Dose.*—$\frac{1}{16}$ to $\frac{1}{4}$ grain (0·004 to 0·016 Gm.), in pill.

In yellow crystalline prisms; has been administered for syphilis. Is formed in solution when the perchloride is given in excess of solution of potassium iodide. The crystals are decomposed by water, depositing half the mercuric iodide.

**Pilula Hydrargyri Iodidi Rubri** ($\frac{1}{8}$ gr.) **et Potassii Iodidi** (4 gr.).

*Dose.*—1, two or three times a day.

**Soaps** containing respectively 3, 1 and $\frac{1}{2}$ per cent of Mercuric Iodide are prepared. Useful for eczema, acne, scabies, ringworm, and desquamation after fevers.

**Tablets**, for lotions, 1 and $8\frac{3}{4}$ grains (0·065 and 0·6 Gm. approximately)

**Hydrargyri Iodidum Viride.** (**B.P.** 1867). Green Iodide of Mercury, Mercurous Iodide.

*Dose.*—$\frac{1}{6}$ to 1 grain (0·01 to 0·065 Gm.). Pills contain $\frac{1}{6}$ and $\frac{1}{3}$ grain.

This salt, though not now official, is the one most largely prescribed for syphilis. It should be kept from the light, be of a yellowish-green colour, and contain slight excess of mercury; otherwise, as writer has shown, it is unstable and dangerous.—P.J. 1890,259; B.M.J. ii./90,642.

Mercurous iodide is probably yellow if chemically pure, but is unstable, breaking up into mercury and mercuric iodide, which is much more irritant.—P.J. i./98.87.

Precipitation method from mercurous acetate and potassium iodide recommended as producing a sufficiently stable compound when properly protected.—P.J. ii./00,57.

Under treatment of syphilis, in diabetic patient, by the proto-iodide, amount of sugar fell from 4—6 per cent. to 1 per cent. without change of diet.—Pr. li.134.

**Hydrargyi Nitras, Mercurous Nitrate.**

In colourless monoclinic crystals, generally either damp (from adhering acid) and soluble in water, or yellow tinted (from basic salt), then not perfectly soluble in water. Used for syphilitic sores, 1 in 30 or more, as a lotion or ointment, and occasionally internally in same dose as mercuric chloride.

**Liquor Hydrargyri Nitratis Acidus.** Acid Solution of Mercuric Nitrate. (*Off.*). Used as a caustic.

**Unguentum Hydrargyi Nitratis.** Mercuric Nitrate Ointment. (*Off.*).

Mercury 1, Nitric Acid 4 (fluid), Lard 4, Olive Oil 7 (weight).

Dissolve the mercury in the nitric acid without the aid of heat, agitating gently from time to time. Melt the lard in the oil contained in an evaporating dish capable of holding six times the quantity; heat the mixture to a temperature of about 280° F. (137·7° C.), add by degrees very carefully the cold mercurial solution, stirring constantly until cold. The product should be of a pale lemon colour.

Some mercurous nitrate remains in the mercuric solution before this is added to the fats. There being also an excess of acid present, the chemical action is thus intensified, and by the time the process is completed, by constant and vigorous agitation, all further chemical action will cease, and the ointment will keep of a good colour for months without generating more gases and thus becoming spongy. Its preparation by this, the official process, requires care, skill, and constant attention. Alternative process:—

Dissolve the Mercury in the Nitric Acid with the aid of a little heat; place the Lard and the Oil contained in a porcelain vessel capable of holding six times the quantity, in a water bath, and heat the mixture to about 190° F. (87·7° C.), add gradually the solution of Mercury also at about the same temperature; mix thoroughly, modifying the action by the water-bath. The mixture should froth up, and be stirred until cold. The ointment made by this process, however well stirred, is apt to become spongy.

**Unguentum Hydrargyri Nitratis Dilutum** (*Off.*).

Mercuric Nitrate Ointment 1, Soft Paraffin (yellow) 4.

**Hydrargyri Oleas**, *v.p.*352.

**Hydrargyri Oleatum**, *v.p.*353.

**Hydrargyri Perchloridum**. Mercuric Chloride (*Off.*); **Hydrargyri Chloridum Corrosivum, U.S.**; Corrosive Sublimate.

*Dose.*—1/32 to 1/16 grain (0·002 to 0·004 Gm.), increased to ¼ grain.

The official preparations are Lotio Hydrargyri Flava (0·46 to 100, or 2 grains to 1 ounce solution of lime), and Liquor Hydrargyri Perchloridi [Mercuric Chloride 1, Distilled Water 875; *dose*, ½ to 1 dr. (1·8 to 3·5 Cc.)].* For lotion 1 in 2,000 to 4,000 or more of water. 1 in 4,000 is not a certain germicide.—B.M.J. i, '03, 337.

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* Formerly equal weights of mercuric chloride and ammonium chloride were contained in the official solution. The writer showed this was not a mere solution of the Perchloride; a double salt was formed, ammonio-mercuric chloride or *Sal Alembroth*, with an excess of chloride of ammonium present. The solution thus prepared with common water (con-

The researches of Koch and others having proved this corrosive poison to be the most powerful antiseptic, solutions of it have of late been much used as surgical dressings; it is soluble 1 in 16 of water, 1 in 4 of alcohol, 2 in 3 of glycerin by weight, dissolved without heat; heat reduces the salt to calomel (?). A solution 1 in 1,000 of water, or preferably an equivalent of the strong **Glycerin Solution** (Sublimate, 2; Glycerin by weight, 3) a fluid drachm, containing about 40 grains of the sublimate, to 4$\frac{1}{2}$ pints, suggested for military use. —B.M.J. i./84,365,1018. As dressings, lint, absorbent wool, gauze, or **Wood Wool** (*v. p.* 503) may be impregnated with $\frac{1}{2}$ per cent. of each, corrosive sublimate and glycerin.—L. i./84,346; B.M.J. i./84,364; B.M.J. i./84,803; L. ii./84,723,740,801,899. Wood wool enclosed in sublimate gauze, both charged with $\frac{1}{4}$ °/₀ of sublimate, the best artificial sponges.—B.M.J. i./91, 448. *Glycerin modifies germicidal action of sublimate.*

**Lotio Hydrargyri Acetica.**

Mercuric Chloride 1, Acetic Acid 75, Glycerin 75, Alcohol (90 per cent.) 250, Rose Water 500. To destroy pediculi and detach their ova.

**Pigmentum contra Tineam.**

Mercuric Chloride 1, Salicylic Acid 9, Phenol 10, Glycerin 80. Efficient in ringworm.

**Ophthalmic discs** contain $\frac{1}{100,000}$ grain **Mercuric Chloride** combined with gelatin.

**Sublimate Disinfectant for Cholera.**—*Local Government Board.*—L. ii./92,682; B.M.J. ii./93,18.

Sublimate $\frac{1}{2}$ ounce, Hydrochloric Acid 1 ounce, Soluble Aniline Blue 5 grains, Water 3 gallons.

**Sublimate Lotiforms** consist of absorbent wool, charged with sublimate, enclosed in muslin, and

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taining carbonate of lime) in place of distilled, or if even diluted with common water, lets fall a white precipitate, if diluted much scarcely a trace of mercury is left in solution.—P.J. 1870,544. **Van Swieten's Solution** (Codex) consists of one part of perchloride of mercury in 900 of water and 100 of alcohol; the B.P. *Liquor* was intended to supplant this. Exposure to sunlight reduces a solution of sublimate. Acidulating with hydrochloric or tartaric acid is said to prevent the precipitation of insoluble albuminate of mercury, and thus to increase and render its antiseptic power continuous.—B.M.J. i./83,148; P.J. 1889,841.

coloured with magenta. One in a pint of water forms a lotion of 1 in 5,000. These are less liable to cause poisoning by carelessness than the following preparations.

**Sublimate Pastils** are made of two sizes, combined with sodium chloride, and coloured blue. They are convenient for surgical purposes, the larger making 20 ounces, and the smaller 10 ounces of lotion, 1 in 500. This should be further diluted with three or more parts of warm water before use. These solutions do not precipitate, and are preferable to solutions with ammonium chloride.—L. ii./90,72; P.J. 1890,83.

**Pastilli Hydrargyri Bichlorati, P. G. iv.**, are of similar composition, coloured red, and contain $\frac{1}{2}$ and 1 gramme of sublimate in each.

**Tablets,** $\frac{1}{100}$ and $\frac{1}{16}$ grain (0·00065 and 0·005 Gm.)

For eye lotion, 1 grain in 8 ounces.—R.O.H.

For gonorrhœa and gleet, 1 to 2 gr. in 8 ounces recommended.—Ed.M.J. 1884,756; 1890,386; M.P.C.i./84, 194; B.M.J. i./90,752.

For ear discharges, syringing with 1 in 10,000 is antiseptic.—Edin.Med.Jour.1884,665. This solution is recommended as a pigment in diphtheria.—M.P.C. i. 84,340. Sixty cases of diphtheria treated with perchloride of mercury; addition of Fowler's solution beneficial.—B.M.J. i./91,14,223.

The soluble salts of mercury and their internal and local use in the treatment of diphtheria.—L. ii. 94,379.

Summary of antiseptic uses.—1 in 10,000 destroys micrococci and bacilli, 1 in 1,000 destroys their spores; this may therefore be used for infected linen, the walls and floors of infected rooms, the hands of surgeons and gynæcologists, and as a lotion to superficial wounds. For continuous applications, 1 in 10,000 forms an active lotion, and 1 in 500, with the same quantity of permanganate of potassium, is an efficient disinfector of an equal bulk of liquid fæcal infected discharges, if in contact not less than two hours.—L. i./85,721.

Risk of poisonous effects from vaginal injections of 1 in 1,000; notice the occurrence of diarrhœa.—B.M.J. ii./86,64; i./90,1040; L. ii./86,1131; i./90,715; Pr.xl.286; B.M.J.E. ii./92,3,107.

Cases of salivation by washing out vagina with 1 in ,000 lotion.—L. i./85,677; B.M.J.E. ii./91,116,123.

Lotion of 1 in 2000 used in 1138 successive parturitions, no death.—B.M.J. ii./93,1129.

Tinea destroyed by solution of 3 grains in an ounce f spirit of nitrous ether.—B.M.J. i./85,434.

Poisoning by 100 grains, recovery under treatment ith emetics and white of egg.—B.M.J. ii./88,720.

Of use in diarrhœa due to fermentation and irritation f the intestines in children; $\frac{1}{50}$ grain frequently.—R.; B.M.J.E. ii./90,23; L. ii./93,531.

Hypodermic injection of 1 in 1,000 solution successful in three cases of anthrax.—B.M.J. ii./90,16; L. ii./91, 58.

Lupus, in initial stage, subcutaneous injection of 1 per cent. solution into affected tissue successful.—L. ii./95, 65.

Leprosy, two cases, relieved by subcutaneous injection of ½ grain per week.—L. ii./96,364.

**Sal Alembroth.**—*Syn.* **Ammonio - Mercuric Chloride, Double Chloride of Mercury and Ammonium.**

Contains one molecule of the sublimate combined with two of ammonium chloride, and may be made by mixing solutions of molecular quantities (271 of the former, 107 of the latter), and evaporating; 3 grains contain 2 grains of sublimate. Is in flattened rhombic prisms, soluble in less than its own weight of water. Possesses powerful antiseptic properties, but does not combine with albumen so quickly as the pure sublimate, and therefore is not so irritating to animal tissues. Used to prepare

**Alembroth Gauze.** In 6-yard pieces; contains 1 per cent. of Sal Alembroth, and is tinted with aniline blue. This is generally damped with carbolic lotion, 1 in 40, before application as a dressing.

**Alembroth Wool,** contains 2 per cent. Tinted blue.

**Alembroth Gauze and Cotton Wool Tissue,** contains 2 per cent. Tinted blue. Specially useful for eye cases.

Sal Alembroth useful as an intramuscular injection for syphilis; ½ grain (= perchloride ⅓ grain) in water injected into buttocks once or twice a week, then less frequently.—Pr. xli.60; L. i./88,826.

**Hydrargyri Salicylas, Hydrargyrum Salicylicum, P.G. iv.** *Dose.*—$\frac{1}{3}$ grain (0·02 Gm.).

A white powder, slightly soluble in water. Given as an antisyphilitic, and used as a dusting powder or ointment for specific sores. Should not be given in large doses with iodide of potassium.—L. i. 89,396; Th. Gaz. 1889, 225,391; 1890,406,430; Y.B. 1890,214.

**Hydrargyri Subchloridum, Mercurous Chloride.**—*Syn.* CALOMEL (*Off.*).

*Dose.*—$\frac{1}{2}$ to 5 grains (0·032 to 0·32 Gm.).

**Tablets,** $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{2}$, 1, 2, 3, 4, and 5 grains.

**Lotio Hydrargyri Nigra** (*Off.*).

Mercurous Chloride 30 grains, Glycerin $\frac{1}{2}$ ounce, Mucilage of Tragacanth, $1\frac{1}{4}$ ounces, Solution of Lime *q.s.* to 10 ounces (about in 150).

**Pilula Hydrargyri Subchloridi Composita.**—*Syn.* PLUMMER'S PILL (*Off.*).

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

Mercurous Chloride 25, Sulphurated Antimony 25, Guaiacum Resin, 50, Castor Oil (by weight) 10·3, Alcohol (90 per cent.) 3 or *q.s.*

**Pulvis Basilicus.**

*Dose* for child of 2 years, 4 grains (0·26 Gm.); of 6 years or upwards, 8 grains (0·52 Gm.).

Mercurous Chloride 3, Scammony 3, Acid Potassium Tartrate 3, Jalap 1, Ginger 1, Antimonial Powder 1.

**Unguentum Hydrargyri Subchloridi. Mercurous Chloride Ointment.**—*Syn.* CALOMEL OINTMENT, (*Off.*).

Mercurous Chloride 1, Benzoated Lard 9.

**Hydrargyri Succinimidum, Succinimide or Imido-succinate of Mercury.**

A white silky powder, freely soluble in water: does not precipitate albumen or fluids of pleuritic effusion or hydrocele. Recommended as a hypodermic injection in syphilis, in 2 per cent. solution (= 1 per cent. of mercury.) Addition of cocaine to diminish pain should not exceed 1 per cent., or precipitation takes place. Is said to preclude the formation of abscesses; is comparatively painless, and does not prevent patients following their vocation. — L. ii. 88,734; P.J. 1888,347; Th. Gaz. Nov. 1888,758.

*Dose* by injection, $\frac{1}{6}$ to $\frac{1}{4}$ grain (0·01 to 0·016 Gm.). Valuable in primary and secondary cases of no great everity, especially in women and children, because of s slight tendency to produce local irritation.—L. ii./90, 78.

**Hydrargyri Tannas, Mercurous Tannate.**

*Dose.*—1½ grain (0·1 Gm.) in a pill. Should it use diarrhœa in weakly patients add ¾ grain of tannic cid to each, or $\frac{1}{12}$ grain of powdered opium.

In dark green, odourless and tasteless powder or scales, ontaining 50 per cent. of mercury. It is not soluble or aterially affected by diluted hydrochloric acid, but easily o by alkalies and their carbonates, separating a magma ontaining very minute particles of mercury. It is hought that under the influence of the alkaline intestinal uice mercury is thus absorbed through the membrane of e intestines in the same manner as when rubbed into e skin. When taken internally a rapid introduction f mercury into circulation has been observed, it being lways found in the urine 24 hours after; yet all disgreeable symptoms so often accompanying the use of ercurials are absent, while the results obtained in arious stages of syphilis have been so rapid and favourble as to safely place it by the side of the best mercurials—e ointment included.—L. i./84,723; P.J. 1884,777; B.M.J. i./87,456; L. i./90,619.

**Unguentum Hydrargyri Oxidi Flavi.** (*Off.*).

Yellow Mercuric Oxide, in very fine powder, 1, Soft Paraffin, yellow, 49. Used for inflamed eyelids, &c. Pagenstecher's Ointment is 4 per cent. or double this trength; he also uses a 10 per cent. ointment.

Injections of 2 grains yellow oxide of mercury susended in liquid paraffin useful in syphilis.—L.ii./89,757.

**Unguentum Hydrargyri Oxidi Rubri.**—*Syn.* RED PRECIPITATE OINTMENT. (*Off.*).

Red Mercuric Oxide, in very fine powder, 1, Paraffin Ointment 9.

**Hydrargyri Naphthol-acetas, Mercur-β-Naphthol Acetate.**

*Dose.*—½ to 1 grain (0·032 to 0·065 Gm.).

An amorphous odourless white powder, insoluble n the usual solvents, melting to a green oily liquid. Diluted with kieselguhr, or in gauze or salvemull, or riturated with fresh albumen and diluted with water, s useful to promote healing of wounds; it is also a mild ntisyphilitic.

**Hydrargyri Thymolacetas, Mercury Thymol Acetate.** A white microcrystalline powder, soluble in dilute alcohol, insoluble in water. Has been used successfully in syphilis as an intra-muscular injection, 1 in 10 of liquid paraffin, also in pills, in doses of ¾ to 1½ grains (0·05 to 0·1 Gm.).—P.J. 1888,427; 1889,607,341.

Injections of insoluble mercurials sometimes followed by intestinal disturbances and dysenteric conditions, cough, cyanosis, and back pains.—B.M.J. ii./89,1062.

**Hypodermic Injections** of Solutions of **Mercuric Oxide,** in combination with **Asparagin** (*v.p.*87) and with **Formamide** (the amide of formic acid), have been employed, and have the advantage of being aqueous solutions; injections of insoluble mercurials producing risk of pneumonia. —L.i./90,562; ii./90,783; B.M.J.E. i./92,52.

**Albuminated** solutions of **Sublimate**, as well as **Peptonated** forms of these, have also been used on the Continent for hypodermic injection.

Report on 1573 injections of various mercurials—calomel the most active, grey oil the least. They should only be used in early stages and when rapid action desired; this rapidity of action the only advantage, and is more than balanced by inconveniences.—Th. Gaz. 1890,617.

## HYDRASTIS RHIZOMA (*Off.*).

*Syn.* Golden Seal.

*Dose.*—10 to 30 grains (0·65 to 2 Gm.).

The dried rhizome and rootlets of *Hydrastis canadensis.* It possesses tonic stomachic properties, is used in intermittent fevers, and causes uterine contraction. It contains a quantity of berberine (*v.p.* 277), and the alkaloid hydrastine.

**Extractum Hydrastis Liquidum.** (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

Hydrastis in No. 60 powder, with 45 per cent. alcohol as a menstruum, prepared as Extractum Hamamelidis Liquidum; 1 = 1 of rhizome. **Extractum Hydrastis fluidum P. Aus. Add.,** contains 10 per cent. of glycerin.

Dangerous syncope followed second dose of twenty drops of liquid extract.—B.M.J.E. i./99,55.

**Extractum Hydrastis.**—Prepared by evaporation of the above.

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

Extract of *Codex Supp.* is prepared with 60 per cent. lcohol.

**Hydrastina, Hydrastine.**

*Dose.*—½ to 1 grain (0·032 to 0·065 Gm.), in pill vith glycerin of tragacanth, or acidulated solution.

An alkaloid in white prismatic crystals resembling trychnine in appearance, insoluble in water, but soluble n alcohol, chloroform, and ether, taste very bitter. sed in fever cases, especially in typhus.

Has been found to produce uterine action and induce bortion, without danger to mother, injected hypodernically.—L. i./86,991.

**Hydrastinæ Hydrochloridum, Hydrastine Hydrochloride.**

*Dose.*—½ to 1 grain (0·032 to 0·065 Gm.).

A crystalline soluble salt; is used in fevers, like the ure alkaloid.

General research on the action of Hydrastine Hydrochloride.—B.M.J. ii./98,1052.

**Hydrastinæ Tartras Acidus.**

*Dose.*—½ to 1 grain (0·032 to 0·065 Gm.).

In fine white needles, sparingly soluble in water.

**Hydrastininæ Hydrochloridum, Hydrastininum Hydrochloricum, P.G. iv.**

*Dose.*—½ grain (0·032 Gm.).

A salt of **Hydrastinine**, an oxidation product of Hydrastine, is allied to Cotarnine, *v.p.*344.

In pale citron yellow crystals, soluble 1 in 1 of vater. Has been used for internal hæmorrhage hypolermically. Useful in menorrhagia and dysmenorrhœa.

L. i/90,712; B.M.J. i./90,1086; Pr. xlv. 373; M.C. May 1890,127; Feb.1892,332; B.M.J.E. i./92,87; .,95,99, L. ii./92,1350; i./94,1521.

Hydrastinine is an oxidation product of hydrastine, nd probably the finally active element in administration. t acts immediately, while other preparations require 12 r 14 days' administration before any decisive effect is roduced. *Dose.*—⅜ grain 4 or 5 times daily. No dvantage in larger doses.—M.C. Feb. 1892,333.

Epilepsy, four cases improved by hydrastinine, B.M.J.E. ii./92,20.

Is distinctly more powerful than ergot, is ecbolic in addition to its action on vascular contraction. M.C. Nov. 94,113.

**Hydrastinum,** Hydrastrin, B.P.C.—Eclectic Remedy.

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) in pill.

Consists principally of Berberine Hydrochloride with extractive; has a bright yellow colour, and is aperient, cholagogue, stomachic, and tonic; is also used as a dressing to ulcers, acting as an antiseptic. Likewise much used in amenorrhœa, also in gonorrhœa and leucorrhœa.

A tonic and moderately powerful biliary and intestinal stimulant.—Pr. xxiii.337; B.M.J. ii./78,31.

Therapeutic study of its uses: 3 to 6 grains in a pill, followed by effervescing sulphate of sodium, is a useful biliary stimulant.—B.M.J. ii./80,746: Pr. xxvi.121.

In eczema, 5 to 20 grains to an ounce of lard has proved of service.—L. ii./85,87.

**Tinctura Hydrastis** (*Off.*).

*Dose.*—30 to 60 minims (1·8 to 3·5 Cc.).

Hydrastis, in No. 60 powder, 1 in 10 of alcohol (60 per cent.).

In gastric catarrh from chronic alcoholism is about the best substitute for the stimulant when this is abandoned. Useful in atonic dyspepsia, habitual constipation due to inaction of the liver, and in general debility it is very efficacious, its action being not unlike that of quinine. It is also employed as an injection for gonorrhœa, 2 drachms to a pint of water used very frequently at first. As a lotion it is employed in chronic inflammation of the mucous membranes, also for cracks and fissures of the nipple.—B.M.J. ii./80.746.

Uterine hæmorrhage from various causes—50 cases treated with fluid extract of hydrastis, 20 drops three times a day, results in two-thirds of the cases very satisfactory.—L. ii./84.208; i./87,391: Pr. xlix.298.

Relieves gastric catarrh.—L. ii./86,31; P.J. 1886.1087.

Has a notable effect in soothing uterine and ovarian pain, and checking uterine hæmorrhage.—L. i./88,868; Ed.M.J. 1886.176: 1887.747.

Useful in fibroid tumours: does not cause painful contractions.—B.M.J. ii./88,123.

Local use of hydrastis invariably successful in chronic pharyngitis.—L. i./89,549: Th. Gaz., Feb. 1889.123.

Checks profuse menstruation.—L. ii./88,133; i./89, .2.

Relieves painful menstruation.—L. ii./89,811; B.M.J. i./89,1068; M.C. May 1890,127.

Given for hæmoptysis in phthisis entirely prevented ight sweats.—Ed.M.J., 1891,473.

**Berberinæ Carbonas.**

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

Although contained in hydrastis and calumba, is btained principally from the bark of *Berberis vulgaris* nd other species of Barberry. It is in bitter, yellowish-rown, acicular crystals, insoluble in water. It forms vith chloroform, ether, and alcohol, crystalline com-ounds. Its salts, the **Hydrochloride, Phosphate,** nd **Sulphate,** are bright yellow in colour, and soluble n water, the hydrochloride about 1 in 400, the phosphate in 12, and the sulphate 1 in 150. *Dose* of each.— to 6 grains (0·13 to 0·4 Gm.). Given for indigestion, iarrhœa, malaria, and sickness in pregnancy.

**Rusot.**—*Syn.* **Rasot**, *v.p.*xxv.

A crude watery extract from wood and bark of *Berberis, sp. var.* is used in India as a febrifuge and as an application to the eye.

*Dose.*—½ to 1 drachm (2 to 4 Gm.).—*Pharm of India.*

# HYDROGENII PEROXIDI LIQUOR.

## Solution of Hydrogen Peroxide (*Off.*).—*Syn.* Aqua Hydrogenii Dioxidi, U.S.

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

The official solution should contain ten volumes of available oxygen when decomposed—*i.e.*, 1 c.c. will evolve 10 c.c. of oxygen, or 1·45 per cent. of its weight, = 3·04 per cent. of $H_2O_2$. It is also made commercially two and three times this strength. Hydrogen Peroxide s produced naturally in many ways, as by the rapid oxidation of some essential oils, oil of turpentine, oil of eucalyptus, &c. It forms the active ingredient in the dis-nfectant known as Sanitas (*v.p.*395). The solution possesses bleaching properties (is used for bleaching ladies' hair), has a harsh, bitter taste, is odourless, or nearly so. It has the second atom of oxygen in a very loose state of combination. It readily decomposes, especially in contact with a metallic oxide, such as that of silver or manganese, these if moist, and freshly precipitated, cause oxygen to be briskly evolved from it. Ether restrains this decomposition, and this fact is made use of for the production of Ozonic Ether (*v.p.*279).

The official solution is much used diluted with 2 or 3 parts of water as a deodorizing antiputrescent and antiseptic lotion.

Statement of the chemistry and properties of Peroxide of Hydrogen, advises its trial in diabetes and fever, as an antidote to the alkaloids and as an application to foul sores. —L. ii./60,390.

Pigment or spray in diphtheria.—Th. Gaz. 1888,199; Pr. xl.454; lii.217; L. i./91,179; B.M.J.E. ii./93,84.

Of great value as a deodorizer.—M.T.G. ii./75,449.

Lecture suggesting its medical uses in diabetes, rheumatism, cardiac disease, and struma.—M.T.G. ii./68,661.

Its use in albuminuria following scarlatina, pregnancy, and pneumonia.—B.M.J. i./81,575.

For purulent discharges, is a local astringent and antiseptic, colourless, odourless, painless, does not stain and is not poisonous.—Pr. xxxii.196.

Hydrogen peroxide injected assists cure of necrosis of jaw.—L. ii./89,660.

Gastric disturbances treated by peroxide of hydrogen internally, 1 drachm before meals.—B.M.J.E. ii./92.43.

Stomatitis, solutions of 2 per cent. and upwards as mouthwash; B.M.J.E. i./94,23.

Vapour of, used with good results in pertussis.—P.J. i./00,673.

Used in form of vapour to prevent cyanide poisoning in gold mines. An innocuous imido-compound is formed. —Merck's Rep. 1899,14.

**Oxydol.** *Dose.*—One tablespoonful, diluted.

Formerly known as *Eau Maiche*, a solution of hydrogen peroxide, said to contain three times its volume of available oxygen; lint soaked in the solution is recommended as a wound dressing.—L. ii. 97.921.

**Pyrozone** is a name given in America to solutions of hydrogen peroxide of various strengths. A 3 per cent. solution in water is used internally as an antiseptic, a 5 per cent. solution in ether as a stronger antiseptic, and a 25 per cent. solution in ether, sold in sealed tubes, as a caustic.—B.M.J. i./94,529.

### Oxols: Menthoxol, Camphoroxol, and Naphthoxol.

These are combinations of a 3 per cent. hydrogen eroxide solution with alcoholic solutions of menthol, amphor, or naphthol, and are said to be powerful ermicides.—P.J. i./98,411.

### Ozonic Ether.

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Ether containing in solution hydrogen peroxide of 0-volume strength with some alcohol. It is miscible ith water, possesses properties similar to the above, and is ore stable. In conjunction with Tincture of Guaiaum (1 in 5 of (90 per cent.) Alcohol), it is employed s a test for blood; it changes the colour of the blood o blue; but does the same to gluten, casein, &c. Hydrogen Peroxide and Ozonic Ether have been given nternally for diabetes and whooping-cough, and Ozonic Ether used locally for scarlet fever.

Ozonic Ether, in half-drachm doses, 3 times a day, ured cases of diabetes; it oxidizes the sugar.—L. /68,45; L. ii./68,526; M.T.G. ii./68,680.

### Antiseptic Ointment of Ozonic Ether.

Ozonic Ether 4 drachms, Lard 4 ounces, Benzoic Acid 20 grains, Otto of Rose 4 drops. Mix. Used for nunction over the body three times a day for about hree weeks, with success to prevent spreading of scarlet ever in a number of cases, and ½ an ounce of the ether o a pint of water, used as a gargle or given as a mixture n frequent doses.—M.T.G. i./77,256.

### Calcium Peroxidum, *v.p.*119.

### Sodii Peroxidum, Sodium Dioxide.

A white amorphous deliquescent powder, dissolves in water with production of heat and evolution of oxygen. 1 part mixed gradually with 8 of ice forms a bleaching and antiseptic solution useful in tooth stopping.—*Dental Cosmos*, June 1894,499.

Anhydrous Soap containing 10 to 20 per cent. Sodium Dioxide and made into a paste with liquid paraffin, used by Unna with marked success in various forms of acne. —P.J. ii./99,506.

### Oxygen.

Oxygen is obtained from the air by first dehydrating and decarbonising it with quicklime; the oxygen is then separated from the nitrogen by being absorbed by caustic baryta exposed under pressure to a high temperature; the barium peroxide formed yields pure oxygen on being heated at a lower temperature; it is sold compressed in **cylinders** containing 12 or 20 cubic feet and upwards for inhalation from a bag.

Constant inhalation of oxygen in pneumonia of great service; relieves dyspnœa, and reduces temperature. Treatment sometimes combined with strychnine hypodermically.—L. i./91,42; i./92,464; L. ii./92,308; i./01,892; B.M.J.E. ii./90,89; B.M.J. i./92,172,327, 384,436,501, 551,653; ii./92,1385; i./96,828; Pr. xlviii.211.

Bronchitis successfully treated: should be applied in a gentle stream; if inhaled suddenly in large quantities may cause tetanic condition of muscles.—B.M.J i./92, 224,251,269. For asthma and phthisis.—B.M.J. i./92, 252,411. Cardiac dyspnœa.—B.M.J. i./94,801.

The best cardiac and respiratory stimulant.—B.M.J. i./92,179; ii./93,843; B.M.J.E. ii./91,133.

Recommended in anæmia, pleurisy, phthisis, and diabetes, and to increase action of other remedies, as of iron in chlorosis.—B.M.J.E. ii./91,157.

Inhalation in cardiac failure and Bright's disease successful.—B.M.J. ii./92,942.

A successful antidote to morphine poisoning.—B.M.J.E. ii./91,37; L. ii./98,545; L. ii./98,545. Also to opium.—L. i./94,1372.

Two cases—uræmic coma and morphine poisoning—illustrating the value of oxygen.—L. ii./95,1428.

A powerful restorative, inhaled, in angina.—L. i./98, 837; B.M.J. i./98,808.

To avoid death from inhalation of nitrous oxide, oxygen recommended.—L. i./94,902,971.

Successful local use of oxygen in ulcers and alopecia. —L. i./95,811; B.M.J. i./96,1087,1157; ii./96,1208; L. i./97,1465; ii./98,1545.

Peritonitis relieved by injections of 1 to 2 litres of oxygen gas.—B.M.J.E. ii./98,75.

Useful for tinnitus and deafness.—L. i./00,510.

**Ozone.** Generated by passage of electric spark, recommended for inhalation in chlorosis, also in pertussis and tuberculosis.—B.M.J. ii./96,1036; B.M.J.E. i./97,55,60.

## HYDROQUINONE.

*Syns.* QUINOL, HYDROCHINON (German).

*Dose.*—½ to 5 grains (0·032 to 0·32 Gm.).

An isomeride of Resorcin and Pyrocatechin. May be prepared from quinic acid by dry distillation, but is principally obtained as a derivative of coal tar. It is neutral, inodorous, has a sweetish taste, soluble 1 in 20 of water, soluble also in alcohol and ether, and slightly so in olive oil. It possesses stronger antiseptic and antipyretic properties than Resorcin. Gramme doses cause symptoms of excitement like Resorcin. It causes no local irritation injected hypodermically, is particularly suitable as an antiseptic in eye operations, useful also in infectious parasitic corneal ulcers, lessens the secretions, does not irritate the conjunctiva or cornea, and has a certain antiseptic action on the diphtheritic process. Like carbolic acid as an antifermentative, and boric acid in the little irritation it causes.—L. i./82,78.

Hydroquinone, Pyrocatechin and Resorcin are used as photographic developing agents.

Notes on its effects on urea and urine.—L. i./87,792.

More certain in action, and better adapted for repeated administration than Resorcin; doses of ½ grain repeated at intervals, most satisfactory as an antipyretic. —B.M.J. ii./88,975.

## HYOSCINA.

### Hyoscine.

A thick syrupy alkaloid, isomeric with cocaine (?) contained in *Hyoscyamus niger*, different species of *Scopola*, and possibly other solanaceous plants.*

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* Ernst Schmidt maintained that Hyoscine consists principally of Scopolamine, an isomer of Cocaine, and that the commercial Hyoscine Hydrobromide consists essentially of Scopolamine Hydrobromide. Of their physiological action Kobert says there is no material difference between that of the pure Scopolamine Salt and the Hyoscine Salt, except that the latter is not quite so powerful. From a therapeutic point of view this is simply an alteration of name, *v.pp.*88, 484. Schmidt now finds commercial hyoscine hydrobromide to contain a varying quantity of inactive scopolamine hydrobromide. Normal Scopolamine ($[\alpha]_D = -25{\cdot}43^\circ$) may be converted into the inactive variety, melting at 56° C., by the action of silver oxide or caustic alkalis. Pure normal Scopolamine Hydrobromide, when rendered anhydrous, melts

**Oleum Hyoscinæ**, 1 per cent. in Castor Oil. Causes a mydriasis which is certain, quick in onset, and of transient effect. **Unguentum Hyoscinæ**, Hyoscine ½, Lard 99½, heat to dissolve. (R.O.H. has Hyoscine Hydrobromide ½, Glycerin *q.s.*, Soft Paraffin 100.)

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at 193—194° C., the inactive at 180° C., and he finds commercial Scopolamine Hydrobromide also melts at 180° C., and has a rotatory power of $[\alpha]_D = -6{\cdot}22°$ to $-13{\cdot}2°$. Atroscine, mentioned below, he has been unable to prepare.

Ladenburg's results differ from those of Schmidt, but his formula for hyoscine disputed by Hesse, P.J. 1892, 181. Hesse holds that Scopolamine consists of the original Hyoscine, with 11 to 50 per cent. of an isomer, Atroscine, melting at 36°—37°C.—Apot. Zeit. 1895,187; P.J. 1895,822; i./96,289; ii./97,377.

Physiologically, Königshofer finds Atroscine to be equal to Hyoscine in its mydriatic power, while its influence on the accommodation is double or fourfold that of Hyoscine.—P.J. ii./96,61.

Atroscine, more powerful in its action on the ciliary muscles, allays irritation more effectually than other mydriatic alkaloids.—P.J. ii./00,775.

Summary of literature of Hyoscine, P.J. ii./06,41.

Hesse, last résumé, says:—Hyoscine is an amorphous viscid liquid and is not the same as the crystalline Scopolamine of Schmidt which is said to constitute the chief part of commercial Hyoscine. **Atroscine** was obtained from commercial Scopolamine Hydrobromide as two hydrates, the mono- melting at 56° to 57°C. the di-hydrate at 36° to 37°C. Anhydrous Atroscine melts at 82° to 83°C., is optically inactive, and dissolves in 38 parts of water, at 18°C. Measurements of Atroscine Hydrobromide showed it to be crystallographically identical with Ladendurg's Hyoscine Hydrobromide. Anhydrous Atroscine Hydrobromide melts at 181°C. and is optically inactive. Atroscine splits up into Oscine and Atropic acid when treated with dilute potash, and the Hydrobromide was found in commercial Scopolamine to the extent of 45, 44·8, and 83·7 per cent. Hesse states the crystalline base which Schmidt found in crystalline Hyoscine was not Hyoscine but Atroscine—though not quite pure Atroscine. A commercial package of 'Pure Scopolamine' consisted entirely of Atroscine. Finally the crystals obtainable from commercial Scopolamine Hydrobromide or from Hyoscine Hydrobromide prepared from *Scopola* are really Atroscine, and crystallised Scopolamine either with or without the prefix '*i*,' normal or not normal, is in the pure state Atroscine. He indicates the following relationship of these alkaloids:—

Hyoscyamine $\longrightarrow$ Atropine $\longrightarrow$ Tropine + Atropic Acid.
Hyoscine $\longrightarrow$ Atroscine $\longrightarrow$ Oscine + Atropic Acid.—
P.J. i./00,116.

Gadamer says "the conversion of Scopolamine (Hyoscine-Ladenburg) into Atroscine-Hesse = *i*-scopolamine-Schmidt was conducted experimentally, but is still denied and fought against by Hesse. *i*-Scopolamine stands indeed in the same relation with active Scopolamine as Atropine does with Hyos-

**Hyoscinæ Hydrobromidum** (*Off.*). **Scopolaminum Hydrobromicum.**

**Hydrobromicum, P.G. iv.** In white rhombic crystals, soluble 1 in 1·5 of water, 1 in 21·5 of alcohol. Melts at 193° to 194° C. (*Off.*); 180° C.—P.G. iv.* *Dose.*—$\frac{1}{200}$ to $\frac{1}{100}$ grain (0·00032 to 0 00065 Gm.), increased to $\frac{1}{50}$ grain.

**Guttæ Hyoscinæ, R.O.H.**, 0·5 in 100.

**Injectio Hyoscinæ Hypodermica.** 1 grain in 200 minims. *Dose.*—1 to 2 minims.

**Liquor Hyoscinæ Hydrobromidi,** 1 in 1,000 of chloroform water.

*Dose.*—3 to 15 minims (0·18 to 0·9 Cc.)

**Pilula Hyoscinæ Hydrobromidi,** $\frac{1}{200}$ and $\frac{1}{100}$ grain in each.

**Hypodermic Tablets,** $\frac{1}{200}$ and $\frac{1}{75}$ grain in each.

**Hyoscinæ Hydrochloridum.** In large crystals, similar to the hydrobromide.

*Dose.*—$\frac{1}{200}$ to $\frac{1}{100}$ (0·00032 to 0·00065 Gm.).

**Hyoscinæ Hydriodidum.** In large whitish crystals, with properties like above. *Dose.*—$\frac{1}{200}$ to $\frac{1}{100}$ (0·00032 to 0·00065 Gm.), increased.

**Hypodermic Lamels of Hyoscine** contain $\frac{1}{200}$ grain in each, combined with gelatin.

**Ophthalmic Discs** contain $\frac{1}{500}$ and $\frac{1}{200}$ grain similarly combined.

Hyoscine is a powerful narcotic, especially useful in cases of insomnia, in calming excitement and delirium, and producing sleep in acute mania. It is said to have no influence on the respiration, but to increase the action of the heart and circulation. Locally applied it produces

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cyamine. He has measured the rate of conversion of Hyoscyamine and Scopolamine but not yet published this; both the alkaloids Hoyscyamine and Scopolamine may easily be made inactive by the aid of silver oxide, sodium hydrate, or by sodium carbonate."—9/11/00.

Identity of Atrosine—Hesse with *i*-Scopolamine—Schmidt. Gadamer, Archiv. der. Pharm., 1893, 236, 382.

* The compilers of P.G.iv. have retained the name of Scopolaminum Hydrobromicum for this preparation which Hesse, as stated *v.p.* 282, would call Atroscine. He says Hyoscine and Atroscine (the above Scopolamine) are isomeric, but he found the base in some commercial Hyoscinum Hydrobromicum consisted almost entirely of Atroscine, the body that gives the most satisfactory mydriatic effects.

rapid, energetic, but brief mydriasis; should be avoided in acute glaucoma.

Both as a sedative and mydriatic is said to possess five times the power of atropine, *v.p.*89.

Is eliminated as such through the kidneys, reduces salivary secretion and perspiration. An excellent palliative for the tremors of paralysis agitans, sclerosis of the spinal cord, and chronic alcoholism.—L. i./90,718; Pr.xlvi.376.

A solution of 1 in 200 is a powerful mydriatic where continued dilatation is required.—L. ii./85,1065.

Three cases of acute mania; is the best calmative, relieves motor spasm, lessens saliva and perspiration: requires caution, $\frac{1}{100}$ grain has caused toxic symptoms.—L. i./88,218; Th. Gaz. March, 1888,173.

As a cerebral sedative, $\frac{1}{200}$ to $\frac{1}{100}$ grain of the hydriodate hypodermically is excellent.—Pr. xxxvii.321; L. i./87,1186; ii./89,736; B.M.J. i./87,1102; i./89,942.

Successful in delirium tremens, insomnia, and maniacal excitement. Pilocarpine or caffeine indicated if unpleasant symptoms occur.—B.M.J. ii./88,75; L. ii./89, 875; ii./91,433; B.M.J. ii./91,694.

Slows pulse, lowers arterial tension, and may produce cardiac paralysis; $\frac{1}{65}$ grain the maximum safe dose, and this arrived at gradually.—L. i./89,42: ii./91,831.

Produces at first slowing of heart, then acceleration. Blood pressure increased, respiration retarded, and irritability of brain diminished.—L. ii./90,414.

Serious symptoms may follow dose of $\frac{1}{100}$ grain.—Pr. xlii.127; Th. Gaz. 1888,862; 1889,94,358,386,862; L.ii./86,1054.

Poisoning by hyoscine from $\frac{1}{33}$ grain injected after two unsuccessful doses in delirium tremens, treated successfully by pilocarpine, probably about two grains of nitrate.—L. i./92,797.

Mydriatic effect rapid, complete, and not prolonged.—L. ii./94,334.

Poisonous symptoms follow instillation of $\frac{1}{24}$ grain into the eyes.—B.M.J.i./96,336.

Valuable in puerperal eclampsia.—L. ii./96,940.

Physiological effects of scopolamine hydrobromide on the iris.—B.M.J.E. ii./96,79.

Dose generally given too high, should not be to begin with above 0·0001 Gm., or for night sweats 0·0004 Gm. —P.J. i./99,198.

# HYOSCYAMINA.

## Hyoscyamine.

*Dose.*—$\frac{1}{120}$ to $\frac{1}{40}$ grain (0·00054 to 0·0016 Gm.), in cases of mania increased to $\frac{1}{16}$ or $\frac{1}{8}$ grain or more, dissolved in water by means of diluted sulphuric acid, r in a pill.

An alkaloid obtained from *Hyoscyamus niger*, also ontained in *Atropa Belladonna, Duboisia myoporoides, atura Stramonium, Scopola Carniolica, S. Japonica,* nd other atropaceous plants. It is an isomer of tropine, into which it can be converted, *v.p* 87. It , in light snow-white masses of minute crystals, without odour, soluble 1 in 120 of water, freely soluble in pirit, and alkaline to test-papers, melting at 108°—09° C. As a mydriatic, it acts like atropine, but with greater intensity, while the duration of effect is about equal (P.J. 1876, 471).

**Hyoscyamine Amorphous,** or **Uncrystallized Hyoscyamine.**

*Dose.*—$\frac{1}{16}$ to $\frac{1}{8}$ grain (0·004 to 0·008 Gm.), ncreased, given in acute mania.

A dark brown extract-like preparation, having a strong, disagreeable odour. It is much less costly than the crystals, and the dose should be about the same.

According to Kobert this owed its activity principally to the Hyoscine it contained.—Pr. xxxvii.321.

A soluble **Hydrobromide** and a **Sulphate** of Amorphous Hyoscyamine in amorphous powders are n use.

**Hyoscyaminæ Hydrobromidum.**

*Dose.*—$\frac{1}{120}$ to $\frac{1}{40}$ grain (0·0005 to 0·0016 Gm.), increased.

In small white granular crystals, soluble about 3 in 1 of water.

**Hyoscyaminæ Sulphas, Hyoscyamine Sulphate,** (*Off.*) U.S.

*Dose.*—$\frac{1}{120}$ to $\frac{1}{40}$ grain (0·0005 to 0·0016 Gm.), increased.

In small white granular crystals, freely soluble in water.

**Injectio Hyoscyaminæ Hypodermica.**

Hyoscyamine Sulphate 1 grain, Distilled Water 2 drachms. *Dose.*—1 to 2 minims.

**Hypodermic Lamels of Hyoscyamine** contain $\frac{1}{50}$ grain, combined with gelatin.

**Ophthalmic Discs** contain $\frac{1}{5000}$ grain similarly combined.

**Pills** and **Granules** of **Hyoscyamine** containing $\frac{1}{250}$ grain (or $\frac{1}{4}$ milligramme) are used for sea sickness. Dose, one hourly if required. Given occasionally a day or so beforehand, and for the first few days on board.—B.M.J. ii. 93,596.

Relieves pain of neuralgia, has cured mercurial tremor, senile trembling, and paralysis agitans.—M.T.G. ii./72, 605.

In paralysis agitans, puerperal mania, delirium tremens, crystallized alkaloid is given in $\frac{1}{30}$-grain doses. —Pr. xxvi.124.

Resemblance to atropine in action. $\frac{1}{120}$ to $\frac{1}{40}$ grain injected hypodermically.—L. ii./76,319.

Crystallized alkaloid in dose of $\frac{1}{40}$ grain injected hypodermically produced delirium in patient addicted to morphine injections.—L i./79,474.

When used hypodermically, is most valuable in calming the violence of a furious maniac, or a noisy, general paralytic.—B.M.J. ii./82,1031; i./83,9; L. ii./84,273.

In delirium tremens, quarter of a grain every six hours found useful.—B.M.J. i./85,285.

Use in mania, $\frac{1}{16}$ grain given three times a day, increased to $\frac{1}{8}$ or $\frac{1}{4}$ grain as single doses, requires care.—B.M.J. ii./85,629.

Toxic symptoms.—B.M.J. ii./88,421,667.

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# ICHTHYOL.

*Syn.* AMMONIUM SULPHO-ICHTHYOLATE.

*Dose.*—10 to 30 grains (0·65 to 2 Gm.) per diem.

A viscous, brownish, almost black substance, with a disagreeable tarry benzene odour, containing about 15 per cent. of sulphur; is obtained by treating the products of distillation of a bituminous quartz found in the Tyrol with sulphuric acid and neutralizing with ammonia. Many remains of fish and other animals are found in the strata whence this quartz is obtained. The deposit is probably the remains of decomposed animals and fish, hence its name—Ichthyol. The ammonia combination is distinctively known as **Ichthyol**, but sulpho-ichthyoies of similar consistence and appearance are also epared with Lithium, Sodium, and Zinc, and known as

**ithii Sulpho-ichthyolas.**
*Dose.*—10 to 30 grains (0·65 to 2 Gm.) per diem.

**odii Sulpho-ichthyolas.** F. Ital.
*Dose.*—10 to 30 grains (0·65 to 2 Gm.) per diem.

**inci Sulpho-ichthyolas.** Principally for external use.

They are miscible with water, glycerin, fats, oils, hloroform, ether, vaseline, and lanoline, imperfectly ith alcohol, unless diluted with ether or water, nd may be combined with preparations of lead and ercury without the formation of sulphides. They form aluable applications for chronic skin diseases, as eczema, oriasis, acne, and favus; as an embrocation, they reeve the pains of chronic rheumatism.—L.ii./83,120; /87,1136; B.M.J.i./87,800. The odour may be disuised with oil of citronella, which is itself used in Ceylon or rheumatism.—Th. Gaz.1890,570.

**apsules** of **Ammonium-Ichthyol** and **Lithium-Ichthyol,** 0·25 gramme (4 grains). *Dose.*—1 or 2.

**ollodion** 7 parts, with Ichthyol 1 part, is used for eczema and other skin diseases.

Successful in erysipelas. —B.M.J.E. ii. 92,31.

**Pills** of **Lithium-Ichthyol,** 1½ grains (0·1 Gm.); also of **Sodium-Ichthyol,** 1½ grains (0·1 Gm.). *Dose* of either, 4 to 12 daily.

**Salve Mulls** are spread containing 10 grammes of Icthyol in ⅕ square metre *v. p.* 529.

**Tablets,** 2½ grains (0·165 Gm.). *Dose.*—1 or more.

**Solutions** of **Ammonium-Ichthyol** in a mixture of equal parts of alcohol and ether contain 10 or 30 per cent.

**Suppositories of Ichthyol** may contain 3 grains 0·2 Gm.) with one-third this quantity of beeswax dded to give firmness, to oil of theobroma, *q.s.*

**Unguentum Ichthyol** may be made to contain from 20 to 50 per cent. with lanoline or with olive oil and lard.

**Unguentum Ichthyol Compositum, G.H.** Ichthyol 1, Solution of Lime 9, Hydrous Wool Fat 5, Soft Paraffin 10, Zinc Ointment 5.

**Ichthyol Paste,** recommended by Unna for acne rosacea. Starch 40, moisten with Water 20, and rub in Ichthyol 40, and lastly strong solution of Albumen, 1 or 1½. This is painted on the skin, quickly dries, and is easily washed off. Another formula:—Ammonium Ichthyol 25, Carbolic Acid, 2½. Dissolve in warm water 22½, and mix with starch 50.—L. i./91,622; B.M.J.E. i./91.102.

Ichthyol is used internally in cases of eczema depending on nervous lesions, in neuralgia, catarrh, chronic rheumatism, lepra, and constipation.

Valuable externally for treating acne, eczema, and lichen.—B.M.J. i./87,800.

Ointments made with 50 and 66 per cent. of this drug, combined with ammonia, are recommended for psoriasis externally in weak constitutions, very sensitive skins, or when these have been affected by stronger remedies.—L. ii./85,577.

Successfully used for acute and chronic rheumatism; it relieves the pain but not the swelling.—L. ii./86,645.

For prurigo senilis a 30 per cent. solution in water recommended, for pruritus, burns, and ulcers a 10 per cent. solution, and internally 2-ounce doses of a 1 per cent. solution for gastric catarrh.—B.M.J. i./86,164; Th. Gaz. 1888,273; Pr. xlvii.223; M.C. Nov. 91,115.

Successful use in eczema, erysipelas, and boils.—L. ii./88, 341; B.M.J. i./89,526; L. ii./93,1479.

Gonorrhœa, treatment by irrigation with 1 to 2 per cent. solution.—L. i./97,1195.

Ichthyol efficacious in burns of first and second degrees. It allays pain at once and slight burns heal rapidly. It is used dry, diluted with zinc oxide or bismuth (the powder being spread evenly over the surface), in ointment (10 to 50 per cent.), or as combination of above methods.—C.D. i./00.359 ex Mon. f. Prakt. Derm.

Internally 20 to 200 drops dissolved in water in the course of a day, used in phthisis.—B.C.D. ii./00.56.

Erythema nodosum, pigment of Ichthyol 2, Alcohol 3, Ether 3, gave immediate and permanent relief.—B.M.J. i./01,917.

**Ichthalbin.** *Dose.*—¾ to 15 grains (0.05 to 1 Gm.).

A combination of ichthyol and albumen, is an odourless and tasteless brown powder. Used internally for eczema, nervous intestinal affections and during reconvalescence from fevers.

**Ichthargan,** *v.p.*81.

**Petrosulfol.**

An Ammonium compound prepared from a pitch containing sulphur, has similar properties physical, chemical and therapeutical to the corresponding Ichthyol compound. Used for boils, chilblains, eczema and impetigo. —Therap. 1900,156.

**Thiol.** *Dose* (of dry) 2 to 10 grains (0·13 to 0·65 Gm.) in pills.

A mixture of sulphonised hydrocarbons, prepared by heating gas oil, obtained in the distillation of coal, with sulphur. Occurs in two forms, (1) in dry black laminæ or powder; and (2) **Thiol Liquidum,** a syrupy liquid containing about 40 per cent. of the latter. Thiol is soluble in water, alcohol, and ether; but is precipitated on addition of acids. It is very similar in composition and properties to ichthyol, and is recommended in eczema, intertrigo, erysipelas, burns, etc.—L. i./89,1003; P.J. 1888,507; Th. Gaz. March, 1889,216. Ointment of Thiol Liquidum, 1 in 8, and dusting powder, Thiol, dry, 1, Starch 1, Oxide of Zinc 2, Talc 16, have been used *vice* ichthyol.—Y.B. 1890,305.

Successful in herpes, acne, eczema, and burns. Solution 1 in 4 used as pigment; also ointment 1 in 3.—L. ii./90,38; B.M.J.E. ii./90,30; Th. Gaz. 1890,647.

An excellent remedy for uterine inflammation and ulcerations of the cervix; quick and painless.—B.M.J.E. i. 92,22. Use in gynæcological cases.—L. ii./92,1241.

**Anytin** contains 33 per cent. of Ichthyol-Sulphonic Acid. This name is given to the Ammonia Salt of a sulphonated hydro-carbon obtained along with Ichthyol. It possesses the property of rendering substances like phenol readily soluble in water. These compounds are known as **Anytols,** *e.g.* Meta-Cresol-Anytol (**Metasol**) contains 40 per cent. of Meta Cresol; **Eucasol** (Eucalyptol Anytol) contains 12½ per cent. of Eucalyptol; Iodine-Anytol contains 10 per cent. of Iodine. These solutions are used as antiseptics, &c. A 3 per cent. Metasol solution has an energetic action on diphtherial processes. —L. i./98,1423; B.M.J. ii./98,87.

## INGLUVIN.

*Dose.*—5 to 10 grains (0·32 to 0·65 Gm.).

A special American preparation, said to be prepared from the gizzard of the domestic fowl, *Pullus Gallinaceus.* Recommended as a substitute for pepsin, and for the cure of obstinate vomiting, especially of pregnancy.

Experiments showing that Ingluvin had little or no digestive action on coagulated egg-albumen.—Pr. xxiv.192.

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## IODOFORMUM.

**Iodoform** (*Off.*) TRI-IODOMETHANE.

*Dose.*—½ to 3 grains (0·032 to 0·2 Gm.) gradually increased.

In shining yellow hexagonal crystalline scales, with persistent disagreeable odour resembling that of saffron. Soluble 1 in 8 of absolute ether, 1 in 10 of ether (Sp. Gr. 0·735), 1 in 12 of chloroform, 1 in 95 of 90 per cent. alcohol, 1 in 14 of oil of eucalyptus, 1 in 10 of collodion, 1 in 60 of vaseline and oil of almonds, and about the same in fats and other fixed oils. It is almost insoluble in water, but dissolves 1 in 10 of Rubini's solution of Camphor, which disguises its odour.

**Iodoformi Pulvis**, as sold, is in reality in very minute crystals. It is preferred for surgical purposes, as it does not clot, but can be dredged on the diseased part.

**Iodoformum Præcipitatum**, or precipitated Iodoform, is a primrose yellow coloured impalpable powder. It has a slight tendency to form clots. It is used for dusting on sores.

Iodoform possesses powerful antiseptic as well as slight anæsthetic or sedative properties. It is most poisonous to the virus of syphilis and gonorrhœa, and, although it contains $\frac{29}{30}$ of its weight of pure iodine, it is not an irritant, like the latter, either taken by the stomach or applied topically. It is largely employed as a general antiseptic in various forms of dressings. Several modes have been suggested of covering its characteristic odour when used for this purpose, such as mixing it with balsam of Peru, oil of eucalyptus, phenol, oil of peppermint, oil of anise, Sanitas oil, otto of rose, tannic acid, oil of sassafras, creolin, thymol, menthol, coumarin, nd Tonquin bean; the two last perfume it, and balsam f Peru covers it, but not effectively.

**Iodoformum Aromaticum** is scented with Coumarin, 1 in 50.

When used for chancres it is best applied in ethereal olution, or iodoform powder dusted on and covered with oric acid ointment or gold-beater's skin, or painted ver with flexible collodion.

Taken internally, Iodoform decomposes, and iodine is soon found in the urine; not being an irritant like odine, it has been given with good effect when the atter is indicated, and has been of service in cases of rritation of the brain and spinal cord.—Binz.

**Buginarium Iodoformi.**

Nasal bougies having a gelato-glycerin basis and containing $\frac{1}{6}$ to $\frac{1}{2}$ grain of Iodoform in each. As they gradually dissolve, the action of the Iodoform is sustained.

**Collodium cum Iodoformo.**

Iodoform 1, Flexible Collodion 12.

Dissolve. Used as a pigment to venereal sores.

**Emulsio Iodoformi, U.C.H., G.H.**

Iodoform, in fine powder, 1 (Alcohol 90 per cent. *q.s.* o moisten. St. Barts., G.N.C., G.H.), Glycerin 7, Boiled Distilled Water 2. Mix well in above order; for injection nto sinuses. One or 2 in warm water 80, a useful bladder antiseptic.

Other formulæ and uses. B.M.J. i.,'90,922. Lister used simply 1 in 10 of glycerin. Watson Cheyne, in preparing the Emulsion, recommends the Iodoform to be sterilised by previously digesting it three days in 5 per cent. phenol solution containing sublimate 1 in 2,000, and the vessels to be sterilised.

Iodoform Emulsion successful as an injection in cold abscess.—L. i.,'90,1142; B.M.J. ii.,'90,49; Th. Gaz. 1890,432.

**Injectio Iodoformi, U.C.H.**

Iodoform, in fine powder, 1, Mucilage of Tragacanth 2, Water 7.

**Insufflatio Iodoformi.**

Iodoform 2, Starch 1. In specific affections of the throat, antiseptic and mildly caustic.

**Insufflatio Iodoformi Composita (Westminster Hospital),** Iodoform 1 grain, Boric Acid

1 grain, Morphine Acetate, $\frac{1}{6}$ grain (Vict. Park has Bismuth Oxychloride 1 grain *vice* Morphine).

**Iodoform and Eucalyptus Bougies, Cereolus Iodoformi et Eucalypti.**

| | | | |
|---|---|---|---|
| Iodoform, precipitated | ... | 5 grains | (0·32 Gm.) |
| Oil of Eucalyptus | ... | 10 minims | (0·6 Cc.) |
| Oil of Theobroma | ... | 35 grains | (2·32 Gm.) |

To make a bougie 4 in long. Used for gonorrhœa. After emptying the bladder, the bougie, dipped in a mixture of eucalyptus and castor oils, or carbolic oil, is introduced into the urethra, and forced up, if possible, an inch beyond the meatus. To absorb discharge, a pad of boric lint is applied over the orifice and retained in position, if the patient is able, by drawing the foreskin over it; outside, gutta-percha tissue and isinglass plaster are used to keep the whole *in situ*, for 5 or 6 hours. Absorbent wool or lint should be placed to catch any discharge escaping. On removal, solution of sulphocarbolate of zinc (2 grs. in 1 oz.) is injected, and in acute cases another bougie introduced. The injection should be used 6 or 7 times a day, for 3 or 4 days. When the acute symptoms have subsided, any remaining discharge may be treated by injections of tannin or sulphate or acetate of zinc.— B.M.J. ii./80,124; L. ii./82,175,213.

**Cereoli**, *Wundstäbchen*, P.G. iv., are flexible urethral bougies, tapering at one end, variously medicated, either throughout or on their surface.

**Iodoform Gauze**, 20 per cent. Is prepared and used like Iodoform Wool.

Recommended for burns, calms the pain.— Pr. xliii. 298; M.P.C. ii./89,203.

**Iodoform Lint**, 10 per cent.

**Iodoform Varnish**, (after Whitehead).

Benzoin 4, Storax 3, Balsam of Tolu 1, Purified Ether 40; dissolve, strain, and add Iodoform 4. For surgical application.

**Iodoform Wool**, Gossypium Iodoformi, 10 per cent. Used as an antiseptic dressing to wounds.

**Gossypium Iodoformi, T.H.**

Contains 50 per cent. of Iodoform. It is used as a stimulant and antiseptic for affections of the ear.

**Ophthalmic Discs**, contain $\frac{1}{100}$ grain of Iodoform combined with gelatin.

**Pastillus Iodoformi, T.H.**
Contains 1 grain of Iodoform (more or less if prescribed) with 18 grains of glyco-gelatin in each pastil. Useful in syphilitic eruptions of the tongue, mouth, and throat, and in chronic pharyngitis.—M.T.G. ii./78,626.

**Pencils of Iodoform,** the thickness of a No. 9 catheter, for uterine medication, are prepared with iodoform, glycerin, and gum acacia *q.s.*, and dried.

**Pilula Iodoformi, T.H.** Iodoform 2 grains, Milk Sugar 1 grain, Glycerin of Tragacanth *q.s.*
*Dose.*—1, two or three times a day.

**Plaster Mulls** contain 10 grammes of Iodoform in $\frac{1}{5}$ square metre, *v.p* 528.

**Suppositoria Iodoformi** (*Off.*) contain 3 grains (0·2 Gm.) in each, with Oil of Theobroma *q.s.* May also be used as a **Pessary.**

**Unguentum Iodoformi** (*Off.*).
Iodoform 1, Paraffin Ointment, yellow, 9.

**Unguentum Iodo - Paraffini, U.C.H.,** Iodo-Vaseline.
Iodoform 1, Oil of Eucalyptus 8; heat gently till dissolved and add to Paraffin 27, Soft Paraffin 6, melted together. Stir till cold.—B.M.J. ii./82,904.

**Unguentum Iodoformi Rosatum.**
Iodoform 5 grains, Vaseline 1 ounce. Heat gently to dissolve, add Oil of Rose 3 drops, and stir till cold. In nasal affections is useful in all forms of perverted secretion.

Iodoform, in syphilis and naso-pharyngeal affections; dose 1 to 2 grains internally, and externally for venereal sores and indolent ulcers where there is no active inflammation.—L. i./79,83.

In phlyctenular ophthalmia and ciliary blepharitis an ointment of 1 in 12 of lard was useful.—L. ii./79,953.

Iodoform ointment used in orchitis, enlarged glands, and venereal ulcers.—B.M.J. ii./79,498.

All chancres are best treated with Iodoform. Sprinkle a little on the wound and cover with lint and vaseline.—Br. ii./79,lx.; Pr. xxii.321.

Ulcers treated by dusting it on and covering with boric acid ointment.—B.M.J. i./80,362,400.

Alveolar abscesses treated by iodoform in conjunction with oil of eucalyptus.—B.M.J. i./80,621.

Soft sores treated by painting with ethereal solution of Iodoform and then covered with a film of collodion or gold-beater's skin.—B.M.J. i./82,340.

Is often used in too great a quantity to wounds.—L. i./87,595; M.R. 1882,405.

Acute and chronic forms of toxic symptoms are produced from its application to wounds.—Pr.xxxvii.271.

Iodoform is a weak germicide not fatal to bacteria.—Ed. M.J. Oct. 1890,389; L. i./93,285; ii./93,1456.

External application may set up a skin disease resembling eczema.—B.M.J. i./94,63.

Iodoform injections beneficial in goitre.—Pr. lvi.334; P.J. ii./96,59; L. ii./99,516.

## *Succedanea or Substitutes for Iodoform.*

**Airogen,** Bismuth Oxyiodo-gallate, *v. p.* 106.

**Aristol.**—*Syn.* DI-THYMOL-IODIDE.

Obtained by mixing a solution of iodine in potassium iodide with an alkaline thymol solution.

A reddish brown powder, containing 45·8 per cent. of Iodine, insoluble in water and glycerin, soluble in ether, collodion, and oils; must not be heated or exposed to light. Recommended for psoriasis, mycosis, and lupus, and as a dusting powder for wounds and burns. May be employed (5 to 10 per cent.) with vaseline, lard, lanoline, or zinc and starch paste basis, such as Lassar's paste, *v.p.*472.

Summary of successful use in various skin affections: epithelioma, psoriasis, eczema, rhinitis, ozæna, and lupus. Unsatisfactory in lichen rubra, soft chancre, and gonorrhœa.—M.C. 1890, July, 298, Aug. 407; Ed. M.J. 1890,88,295; Th. Gaz. 1890,558,761.

Aristol has a certain effect in venereal ulcers, but acts very slowly. Only advantage over Iodoform is absence of smell. Activity inferior.—B.M.J.E. ii./90,47; ii./93,88.

Used with success as insufflation in cancer of cervix uteri—relieves pain, stops bleeding, lessens discharge—is not absorbed, therefore non-toxic.—B.M.J.E. ii./91,155. In syphilitic ulcers.—Pr. lvii.2382; M.C.1892,341.

Burns and scalds treated successfully with Aristol and Vaseline (1 in 10).—L. ii./91,141; P.J. 1894,545; Pr. liv,192; liv,108.

**Eigons,** Iod-eigon and **Pepto-Iod-eigon.**

The latter soluble and the former insoluble in water, are albumen compounds of Iodine. Bromo-eigon and Pepto-Bromo-eigon are similar Bromine Compounds.

**Di-iodoform.**—ETHYLENE PERIODIDE.

In yellow prismatic crystals, almost inodorous, soluble n chloroform and slightly in alcohol and ether, insoluble in water; is partly decomposed by light. Recommended n place of iodoform.—P.J. 1894,622; Pr. lii.126.

**Eka-iodoform.**

A compound of iodoform with paraform, resembling the former in appearance and smell; is recommended as a stronger antiseptic agent.—P.J. ii./97,189,254.

**Europhen,**—ISO-BUTYL-ORTHO-CRESYL-IODIDE.

A yellow amorphous powder, containing 28 per cent. of iodine, with slight saffron odour, insoluble in water and glycerin, soluble in oil, alcohol, ether, and chloroform; is resinous to touch, and adheres well to mucous membrane and wound surface; is five times lighter than Iodoform, and cakes less easily. Is decomposed by light, and must not be heated to prepare solutions or ointments; solutions should be filtered owing to formation of an insoluble iodine compound. Is non-poisonous, and acts only when brought into contact with secreting surfaces, which decompose it and liberate iodine; should not be combined with preparations of starch or metals. Has been used with satisfactory results as powder or ointment (1 to 10 per cent.) in simple and venereal ulcers, and in oily solution (1 or 2 grains), injected daily for syphilis; failed in eczema, psoriasis, and gonorrhœa.

Tubercular leprosy improved by inunction and subcutaneous injection.—B.M.J.E. i. 93,71.

Serviceable in eye diseases, otitis, and ozæna. Lightness and freedom from odour make it specially useful in dentistry.—Am. M.S.B. 1894,736.

**Iodoformal.**

A compound of ethyl-hexamethylene hydriodide and iodoform; is said to possess higher antiseptic properties than either iodoform or iodoformin; may be used as a dusting powder, or 10% ointment or 20% sticks with gum arabic for chronic gonorrhœa.—Merck's Rep. 1897.

**Iodoformin.**

A compound of iodoform and hexamethylenetetramine containing 75 per cent. of iodoform, which is liberated by acid or alkaline liquids. Is a white powder, turning yellow on exposure to light, insoluble in water. Is recommended as a dressing for wounds and ulcers, as possessing the properties of iodoform with only a slight odour.—P.J. ii./95,455; L. i./96,856.

**Iodoformogen.** A combination of Iodoform with 90 per cent. of Albumen for use as a wound dressing.—L. ii./98,154; P.J. i./99,189. **Iodolene** is a similar compound of Iodol and Albumen.

**Iodol.**—*Syn.* TETRA-IODO-PYRROL.

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.).

A micro-crystalline, brownish white powder, obtained by precipitating pyrrol with iodo-iodide of potassium. It gives off iodine vapours on being heated. Insoluble in water, soluble 1 in 145 of glycerin, 1 in 6 of absolute alcohol, 1 in 27 of 90 per cent. alcohol, freely in ether; also soluble in chloroform and oils. It has no unpleasant smell, produces no anæsthetic toxic action, like Iodoform, when wounds are dressed with it, and its application is painless; useful in buboes and indolent and corneal ulcers.—B.M.J.i./86,1229; P.J.1885,367; 1886,1087.

It explodes if rubbed with mercuric oxide.

An ointment, 1 to 5 of vaseline, and a solution, 3 parts to 35 of alcohol and 62 of glycerin, have been used for granular and chronic conjunctivitis with good results; and a solution of iodol 1, alcohol 3, glycerin 21, as a pigment in diphtheria.—B.M.J.i./87,789. Also iodol 2, menthol 1, almond oil 96, for throat spray or pigment.

Iodomenthol. One per cent. of menthol covers odour of iodol, and is said to render it more active.—P.J. ii./98,705; i./99,365.

Collodion and Ether (1 in 1) are good solvents of Iodol. These form useful applications.

With spirit and glycerin is valuable as a pigment to canal of external ear for discharges.—L. ii./86,745.

Being both odourless and non-toxic is specially valuable.—Ed. M.J. Jan. 1888,673.

Hard and soft chancres and varicose ulcers much improve under its use.—L. i./87,542.

Has some anæsthetic action, and acts as an astringent hen discharge is copious.—B.M.J. i./87,460.

**odo-Salicylic Acid** and **Di-Iodo-Salicylic Acid.**—These two acids are iodine compounds of salicylic acid, in which one and two atoms respectively of hydrogen are replaced by iodine. In commerce they are found as white micro-crystalline powders, slightly soluble in water, soluble in alcohol, ether, fixed oils, and like salicylic acid, also in collodion. They have the combined action of iodine and salicylic acid. The **Di-Iodo-Salicylic Acid** is the richer in iodine, and in dose commencing at 22 grains, and increased to 60 grains daily, proved very useful in acute polyarticular rheumatism; is both analgesic and antithermic, and has succeeded where salicylates have failed. May be given in cachets. It is also a powerful antiseptic.—Bulletin Thérap. Aug. 1889,131; P.J. 1889,502.

**Iodo-Cresol.** See **Traumatol**, *v.p.*299.

**Loretin.** META-IODO-ORTHO-OXY-CHINOLIN-ANA-SULPHONIC ACID.

A yellowish odourless crystalline powder, very slightly soluble in water and alcohol, but forming soluble salts with alkalis except with lime; a non-poisonous and unirritating substitute for iodoform, with marked curative effect on burns, ulcers, and other wounds.—B.M.J.E. ii. 93,91. May be used as dusting powder or ointment, and its sodium or potassium salt as lotion.—B.M.J.E. ii./93,91; L. ii. 94,31. Calcium salt may be used to impregnate gauze.

An ideal antiseptic.—B.M.J. ii./95,1549.

**Losophan.** META-TRI-IODO-CRESOL.

A greyish crystalline powder, soluble in alcohol, chloroform, oils, and fats. Contains 80 per cent. of iodine, and has been found useful in parasitic skin affections, but not of general value, is apt to cause irritation. Lotion, 1 or 2 per cent. in diluted alcohol, also in ointment and dusting powder.—P.J. 1892,346; 1894,730; B.M.J.E. ii. 92,1012; L. i./93,45.

Inefficacious.—P.J. 1895,1139.

**Nosophen.**—TETRAIODOPHENOLPHTHALEIN.

*Dose.*—3 to 8 grains (**0·2 to 0·52 Gm.**).

A cream-coloured powder, with slight odour of iodine, of which it contains 60 per cent.; insoluble in water, soluble in ether and chloroform, and slightly in alcohol. Used as a dusting powder, and as an insufflation in coryza and rhinitis. It is said to pass through the system unchanged. Combines with bases, forming salts (see below).—P.J. 1895,935.

**Antinosin.**—The sodium salt of tetraiodophenolphthalein.

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

A blue powder, readily soluble in water, antiseptic, and non-poisonous, recommended in lotion for mouth and throat affections, for washing out cavities, and for irrigation of the bladder in cystitis.—P.J.i./96,317.

As an injection in vesical catarrh in $\frac{1}{10}$ to $\frac{1}{2}$ per cent. solution.—P.J. ii./00,587.

**Eudoxin.**—The bismuth salt of tetraiodophenolphthalein.

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

A reddish-brown insoluble powder, recommended for use internally in stomachic and intestinal affections.—P.J. ii./96,19.

**Sanoform.**—Methyl-di-iodo-salicylate.

In light white crystalline tufts, soluble in hot alcohol, readily in vaseline, ether, and collodion. Is not decomposed by heat, and may be used as a substitute for iodoform, as an antiseptic in the treatment of fresh and purulent wounds, genital and ophthalmic ulcers. Is odourless, non-poisonous, and un-irritating, and promoted rapid drying and healing of wounds.—P.J.i./96,421; i./98,42; B.M.J.E.ii./96,67.

**Sozoiodol.** Di-Iodo-Para-Phenolsulphonic Acid, which contains 54 per cent. of iodine, 7 per cent. of sulphur, and 20 per cent. of phenol, has been combined with **Sodium, Potassium, Ammonium, Lead, Mercury,** and **Zinc,** to form salts which have been suggested as odourless substitutes for iodoform.

The sodium salt, Sozoiodol-Sodium, which has been most used, is in odourless shining acicular crystals, soluble 1 in 14 of water. It has been given internally in doses of 22 grains three times a day, and is well tolerated as an external application.—B.M.J. ii./88,1170; L. i./89,893; P.J.1889,577; 1890,1039; Y.B. 1890,313. Its topical application has been found too irritating.

Whooping-cough, 3 grains blown into each nostril nce daily useful.—B.M.J.E. i./93,36.

*Sozoiodol-Mercury* is an orange-yellow powder, and solution of 2½ grains with Sodium Iodide 5 grains, in 00 minims, is recommended in 10 to 15-minim doses or intramuscular injection in syphilis.

**Iodine** is contained in these preparations in the ollowing proportions:—

| | | |
|---|---|---|
| Iodoform ... ... | 381 in 394 | or about 29 in 30 |
| Iodol ... ... | 508 „ 571 | „ 9 „ 10 |
| Losophan... ... | 80 „ 100 | „ 8 „ 10 |
| Di-iodo-salicylic acid | 254 „ 390 | „ 2 „ 3 |
| Iodo-salicylic acid... | 127 „ 264 | „ 1 „ 2 |
| Sozoiodol ... ... | 54 „ 100 | „ 1 „ 2 |
| Aristol ... ... | 45·8 „ 100 | „ 1 „ 2 |
| Europhen ... ... | 28 „ 100 | „ 2 „ 7 |

**Periodate, Crystals and Powder.** *Dose.*—1 to 15 grains. A specialty in odourless whitish granular powder, slightly soluble in water, and consisting of periodic and iodic acids, partly in combination with calcium. Morphine solution liberates iodine from it. Recommended as an antiseptic and deodoriser.—L. ii./89,1312; i./90,105; M.P.C. i./90,77. Iodate of calcium is a weak germicide.—B.M.J. i./90,279.

Cholera, no apparent results in.—B.M.J. ii./92,1313, 1404.

**Iron Periodate** has been recommended for influenza.

**Traumatol,** an Iodo-Cresol compound.

A greyish amorphous powder, used as a non-toxic antiseptic. A **Liquid** preparation is also made.

**Vioform.** Iodochloroxyquinolin, an Iodoform substitute.—P.J. ii./00,470,700.

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## IODUM.

### Iodine (*Off.*).

The following medicinal inorganic iodides contain the halogen in these proportions:—Ammonium Iodide 87·6 per cent., Lithium Iodide (Anhydrous) 94·8 per cent., Potassium Iodide 76·51 per cent. Rubidium Iodide 42·37 per cent., Sodium Iodide 68·28 per cent., Strontium Iodide (+ 6 $H_2O$) 56·5 per cent.

It has been seriously discussed whether a tolerance of

Iodine is not a proof of the existence of constitutional syphilis.—Th. Gaz. Dec. 1888,802.

Iodine one of the best disinfectants.—Asclepiad,xi.157.

**Tinctura Iodinei, P.Ed.** 1 grain Iodine to 16 minims Rectified Spirit. For external use, and is preferred for injecting for hydrocele and for dry inhalation is not miscible with water.

**Collodium Iodi.** *v.p.*198.

**Glycerinum Iodi.**

Iodine 1, Glycerin 50. Heat carefully till dissolved, — is not a mere solution, some decomposition of glycerin takes place. It forms a useful pigment, the skin does not get hardened by its repeated application, and does not peel off.—P.J. 1870,601.

**Glycerinum Iodi, G.H.,** is *Morton's Fluid sine* Water. See below.

**Iodized Phenol.**—Acidum Carbolicum, *v.p.*12.

**Iodized Wool.** Saturate Absorbent Wool 94, with Iodine 6, dissolved in Ether 200, and dry.

**Injectio Iodi Hypodermica Fortissima, T.H.**

Iodine 360 grains, Potassium Iodide 360 grains, Distilled Water 4½ drachms. Should measure exactly 1 ounce and contain ¾ grain free Iodine in each minim. *Dose.*—3 to 5 minims for fibrous bronchocele.—Birm. Med. Rev. iv.1875,56.

A grain of Iodine may be held in solution in a minim of fluid, by employing sodium iodide in the proportion of Iodine 3, sodium iodide 2, and water *q.s.* to form 3 volumes.

**Iodo-Glycerin Solution.** *Morton's Fluid.*

Iodine 10 grains, Potassium Iodide 30 grains, Water 25 minims, dissolve and add Glycerin to 1 ounce.

In spina bifida about 30 minims are injected into the tumour.—L. i./76,776; i./77,684; i./82,737; ii./83,499; B.M.J. i./82,661; i./85,1028; i./86,874; ii./87,1275; i./93,413.

**Iodinoleum,** Iodinol.—*Syn.* Iodipin 25 and 10 per cent., analagous to Brominol (*v.p.*109).

*Dose.*—2 to 3 drachms daily of the 25 per cent = about 20 to 30 grains of Potassium Iodide.

**Capsules** contain 2 grammes of the 25 per cent. = about 9 grains of potassium iodide.

They are additive compounds of Iodine and Sesame Oil, readily absorbed and easily assimilated. The weaker recommended for use internally. The 25 per cent. is sed externally and subcutaneously.

The compound may be prepared similarly to Brominol by epeated iodization of Sesame Oil by means of Iodine-Monohloride in alcoholic solution. The estimation of the iodine trength is as follows:—Fuse about 0·6 Gm. with sodium carbonte. Boil out with water. Strongly acidify the liquid in a separaor with sulphuric acid under a stream of cold water. Add 5 Cc. f liquid phenol. Shake thoroughly and add 20 Cc. of bromine ater, shake and wash out the Iodine liberated with chloroorm, repeating the addition of phenol, &c., and shaking out until the chloroformic liquid is colorless. Pour the combined hloroformic liquids into a colorless bottle, cover with a little water and titrate with thiosulphate using starch paste as ndicator (1 Cc. $N/_{10}$ thio. = 0·01265 Gm. I.). The preparation s a thick yellow oil, odourless and of oily taste (hence the apsule method of administration is usually preferred). The odine is said to be rapidly absorbed into the system inasmuch s it can be detected in the urine within 10 minutes after a dose.

Iodinol may be given in beer, wine, milk, shaken with yrup or emulsified as follows:—Iodinol 25 per cent. 2 ounces, Gum Acacia 1 ounce, Chloroform 24 drops, ub together and add quickly with vigorous agitation Water *q.s.* to 6 ounces. Dose of 2 drachms = about 7 grains potassium iodide.

Syphilis well treated by injections of 20 Cc. of 10 per ent. solution every other day.—B.M.J.E. ii./1900,80.

**Iodum Oleatum.**

An Iodine Oleic Acid compound containing 20 per ent. of Iodine. When thoroughly rubbed into part affected does not stain the skin.

**Liquor Iodi** (**B.P.** 1885).—*Syn.* LUGOL'S SOLUTION.

Iodine 2, Potassium Iodide 3, Water 40.

**Liquor Iodi Fortis, Strong Solution of Iodine** (*Off.*).—*Syn.* LINIMENTUM IODI (B.P. 1885); Liquor Iodi Dilutus, U.C.H.

Iodine 5, Potassium Iodide 3, Distilled Water 5. Dissolve and add Alcohol (90 per cent.) 36.

**Pigmentum Iodi, U.C.H., Mid.H.**

Tincture of Iodine 1, Strong Solution of Iodine 1.

**Pigmentum Iodi et Olei Picis, U.C.H., Mid.H.** (Coster's Paste).

Iodine 1, Light Oil of Wood Tar 4.

Mix carefully, applying heat if necessary; after ebullition preserve for use. Ebullition generally takes place by the chemical action between the two ingredients, a part of the oil is oxidised and forms a resinous deposit. Hydriodic acid is probably formed to some extent, as the mixture fails to give any reaction of free Iodine.—M.T.G. i./67,34; B.M.J. i./80,192; L. i./80,55.

Similar, but more irritating, applications are made by combining Iodine with creosote or *huile de cade* in the same proportions as above.

Coster's Paste is a useful application for ringworm of the scalp; after well shaking the bottle, it should be well brushed in with a stiff brush; a scab will be produced which should be removed in a few days, the part cleansed by soaking with oil, and then soap and warm water; after drying, more paste should be applied. It seldom causes pain.

Use in the treatment of ringworm.—L. i./80,55; B.M.J. i./80,114, and Alder Smith on Ringworm.

Iodine, Chloral Hydrate, and Carbolic Acid, equal parts, recommended for ringworm.—Pr. xlix.459.

**Tinctura Iodi** (*Off.*). *Dose* (for vomiting).—2 to 5 minims (0·12 to 0·3 Cc.).

Iodine 1, Potassium Iodide 1, Distilled Water 1; dissolve, add Alcohol (90 per cent.) *q.s.* to 40.

**Tinctura Iodi Ætherea.**

Iodine 1, Pure Ether 40, *v.p.*48.

**Tinctura Iodi Decolorata, B.P.C.**

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|---|---|
| Iodine ... ... ... | 250 grains. |
| Rectified Spirit ... ... | 5½ ounces. |

Dissolve with a gentle heat, and add when cold

| | |
|---|---|
| Strong Solution of Ammonia | 10 drachms. |

Keep the mixture in a warm place until decolorised, after which dilute it with (about 2 to 1 is required)

| | |
|---|---|
| Rectified Spirit ... | *q.s.* to 1 pint. |

Mix. Undiluted it may be prescribed as *Tinctura Iodi Decolorata Fortior*; if diluted, it is about the strength of the official tincture, and forms a useful application for chilblains and painting on exposed affected parts. Some iodoform is formed in solution.—P.J. 1876,42.

**Tinctura Iodi Oleosa.**

Iodine 1, Alcohol (90 per cent.) 9; heat to dissolve, and add Castor Oil 2. Repeatedly applied as a pigment, it does not crack the skin, as the tincture does.

**Unguentum Iodi** (*Off.*).

Iodine 1, Potassium Iodide 1, Glycerin (by weight) 3; dissolve, and add Lard 20.

**Amyli Iodidum** (Buchanan).

*Syn.* AMYLUM IODATUM; IODIZED STARCH.

Iodine 1, Distilled Water *q.s.* to moisten. Triturate and d gradually Wheat Starch in powder 20. Continue the turation until it assumes a deep and uniform colour, ld dry under 104° F.

*Dose.*—½ to 4 drachms (2 to 16 Gm.), in water, ater gruel, or arrowroot with water. As a local plication, is said to be as valuable as iodoform.

This is a mild form of administering Iodine in ry weak combination for syphilis and other dis- ses, the dose is pushed until free Iodine can be tected in the urine. It is recommended as an antidote hen poison is unknown, *e.g.*, for sulphuretted hydrogen, e alkaloids, alkaline sulphides, caustic alkalis, and mmonia.—Pr. xxvi.128. Also in putrid diarrhœa.

In lupus erythematodes, doses of 1 to 4 teaspoonfuls ree times a day very successful.—B.M.J. i./80,652.

**Pasta Iodi et Amyli, U.C.H.**

Starch, in powder, 1, Glycerin 2, Water 6; boil, and hen nearly cold add Solution of Iodine (B.P. 1885) 1. ix well. (Mid. H. uses strong Solution of Iodine ½.) seful to cleanse and heal foul sores, especially such as re syphilitic.—Tilbury Fox. It rapidly heals syphilitic cers, especially those of the face; if applied on lint uring the night, the sores may be hidden with calamine otion during the day.

**Syrupus Acidi Hydriodici, U.S., and B.P.C.**

*Dose.*—20 to 60 minims (1·2 to 3·5 Cc.), well diluted.

Dissolve Potassium Iodide 152 grains, and Potassium ypophosphite 12 grains, in Distilled Water 200 inims; and Tartaric Acid 140 grains, in Alcohol (60 er cent.) 5 drachms; mix thoroughly, place in ice- ater for half-an-hour, shaking occasionally; filter, and ash the filter with Alcohol (60 per cent.) until the ltrate gives but a faint cloudiness with silver nitrate. hen evaporate the filtrate over a water-bath to 600 rains, and when cold, add syrup to 1 pint. Contains 1 er cent. by weight of hydriodic acid. Is a mild prepara- ion of Iodine.

**Vapor Iodi Ætherealis.**

Iodine 3 grains, Ether 2 drachms, Carbolic Acid 2 rachms, Creosote 1 drachm, Rectified Spirit 3 drachms. en minims to be dropped on the respirator for dry nhalation. Thymol may be substituted for creosote.—B.M.J. i./81,841.

## IPECACUANHA

### Ipecacuanha (*Off.*).

*Dose.*—As an expectorant, ¼ to 2 grains (0·016 to 0·13 Gm.), as an emetic 15 to 30 grains (1 to 2 Gm.).

The dried root of *Psychotria Ipecacuanha*.

The root of another variety than the official is known in commerce as Carthagena ipecacuanha. It is thicker, and the annulations less marked. P.J. 1895,685.

Ipecacuanha induces energetic uterine action in first or second stage of labour; 2 or 3 doses of 10 to 15 minims of the wine at intervals of a few minutes.—B.M.J. ii./90,1295.

Good reaction of doses of 20 grains in dysentery when acute, in strong persons.—L. ii. 98,52.

**Pulvis Ipecacuanhæ sine Emetina** (Ipecacuanha from which the emetine has been extracted) acts equally well, it is said, for dysentery, without causing vomiting. Is not generally entirely free from alkaloids. *Dose.*—10 to 30 grains (0·65 to 2 Gm.), Pr.l.411; M.C. Aug. 93,338; P.J. 1893, 990,211.

Chronic dysentery cured in 24 hours by 10-grain doses.—B.M.J. i./98,1056.

**Acetum Ipecacuanhæ** (*Off.*).

*Dose.*—5 to 30 minims (0·3 to 1·8 Cc.).

Liquid Extract of Ipecacuanha 1, Alcohol (90 per cent.) 2, Diluted Acetic Acid *q.s.* to 20.

**Extractum Ipecacuanhæ Liquidum** (*Off.*).

*Dose.*—As an expectorant, ½ to 2 minims (0·03 to 0·12 Cc.); as an emetic, 15 to 20 minims (0·9 to 1·2 Cc.).

Ipecacuanha in No. 20 powder is percolated with 90 per cent. alcohol, and the marc mixed with calcium hydroxide and further percolated; the percolate is finally adjusted in strength to contain 2 to 2·25 per cent. of alkaloid. 1 = about 1 of root. Keeps indifferently.

**Pulvis Ipecacuanhæ Compositus.** *Syn.*—DOVER'S POWDER. (*Off.*).

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

Ipecacuanha 1, Opium 1, Potassium Sulphate 8.

**Tablets**, 5 grains (0·32 Gm.).

*Dose.*—1 to 3.

**ilula Ipecacuanhæ cum Scilla.**

*Dose.*—4 to 8 grains (**0·26 to 0·52 Gm.**).

Compound Powder of Ipecacuanha 3, Squill 1, nmoniacum 1, Syrup of Glucose *q.s.*

**yrupus Ipecacuanhæ Aceticus, B.P.C.**

*Dose.*—½ to 2 drachms (**0·9 to 7 Cc.**).

Vinegar of Ipecacuanha 1 pint, Refined Sugar 2¼ unds. Dissolve by gentle heat. Sp. Gr. about 1·33.

**inum Ipecacuanhæ** (*Off.*).

*Dose.*—As an expectorant, 10 to 30 minims (**0·6 to 8 Cc.**); as an emetic, 4 to 6 drachms (**15 to 22 Cc.**).

Liquid Extract of Ipecacuanha 1, Sherry 19. After hours, filter.

**metina, Emetine.**—*Syn.* EMETIA.

Hitherto this name has been given to a mixture of kaloids obtained from Ipecacuanha, in pale, brownish- ite, amorphous masses, sparingly soluble in water and her; freely soluble in alcohol, chloroform, and dilute ids. It irritates the skin applied locally, producing istules, like tartar emetic, and is a powerful emetic d depressent, and is given in doses of $\frac{1}{200}$ to $\frac{1}{50}$ grain an expectorant, $\frac{1}{6}$ to $\frac{1}{3}$ grain as an emetic. Ipeca- anha yields about 2 per cent. of this crude Emetine. ul and Cownley have shown that this commercial ticle is an indefinite body, and that the alkaloidal con- ituents of ipecacuanha are composed of nearly 70 per nt. of one for which they retain the name Emetine, d about 30 per cent. Cephaëline, with a small quantity at least a third crystallized alkaloid, at present unde- ied. Both cephaëline and emetine act as emetics.— J. 1894,111,373; 1895,690; i./96,321.

The pharmacology of ipecacuanha alkaloids.—L. ii. 95, 274; P.J. ii./95,435.

**ure Emetine** is white and amorphous, soluble in ether, alcohol, and chloroform, very sparingly so in water, insoluble in caustic alkaline solutions; rapidly darkening in colour on exposure, and forming crystalline salts of which the **Hydrochloride**, freely soluble in water, is in commerce.

Of this salt 1 grain in 8 ounces of Sherry forms **inum Emetinæ**, about equal in strength to Ipecacu- ha Wine. *Dose.*—5 to 10 minims (**0·3 to 2·4 Cc.**).

**Cephaëline** is a crystalline alkaloid less soluble in ether than emetine, but soluble in caustic alkaline solutions, and also darkens on exposure.

**Emetin—Extractive.**

*Dose.*—Expectorant $\frac{1}{15}$ to $\frac{1}{10}$ (0·0043 to 0·0065 Gm.), emetic ½ to 1 grain (0·032 to 0·065 Gm.), in pill or solution. An extractive substance, soluble in water; must be distinguished from Emetine.

**Trochisci Ipecacuanhæ.**—¼ grain (0·016 Gm.) in each, with Fruit Basis.

**Trochisci Morphinæ et Emetin** contain $\frac{1}{40}$ grain of Morphine and $\frac{1}{80}$ grain of Emetin in each.

**Trochisci Morphinæ et Ipecacuanhæ** have $\frac{1}{12}$ grain (0·0054 Gm.) in each, with Tolu Basis.

Emetin is an emetic by reflex action, reduces the respiration and circulation, and it combats the convulsions caused by strychnine.—B.F.M.C.R. ii./74,247.

Physiological properties.—Its action seems to be limited to the peripheric extremities of the vagus nerve. —L. ii./74,532; L. i./80,500.

## IRIDINUM.

*Syn.* IRIDIN, B.P.C. IRISIN.

*Dose.*—1 to 3 grains (0·065 to 0·32 Gm.) in a pill with glycerin of tragacanth or extract of henbane.

The powdered extract of a dark brown colour obtained by means of Alcohol 60, from the root of the blue flag. *Iris versi-color*, has a bitter, acrid taste, possesses cathartic, alterative, and diuretic properties, given in hepatic and intestinal disorders. Malarial jaundice has been cured by it.—B. Name Iridin has also been applied to a crystalline glucoside obtained from *I. florentina*, but not used in medicine.—P.J. 1803,342.

**Pilula Iridin.**—Iridin 2 grains, Extract of Henbane *q.s.* To make one pill. Two for a dose at bed-time quickly remove slight feeling of biliousness, especially when the tongue is yellow; should be followed by a saline aperient in the morning. Iridin is gentler in action than podophyllin and more reliable when a slight cholagogue is wanted for a lengthened period.—Pr. xxiii.335; B.M.J. i./79,177.

Comfortable purge for biliousness, 4 grains combined with one grain of euonymin.—B.M.J. i./79,932.

Mild aperient cholagogue, produces bilious stools, oes not irritate rectum, and has no subsequent astrinency.—L. ii./62,239.

In gallstones, 1 grain every night for twelve nights emoves liability to.—B.M.J. ii./81,694.

## JABORANDI FOLIA.

### Jaborandi Leaves (*Off.*).

*Syn.* PILOCARPI FOLIOLA.

*Dose.*—5 to 60 grains (**0·32 to 4 Gm.**) of the powder.

The dried leaflets of a rutaceous shrub, diagnosed by Ir. E. M. Holmes as *Pilocarpus Jaborandi*, imported rom Brazil, principally from Pernambuco. The leaflets of ?. *Selloanus* are also imported from Rio de Janeiro under he same name, but are much less active. Jaborandi was rst introduced into Britain by the writer in 1874. 'he leaves are of a dull green colour, large, pinnate, having to 5 pairs of leaflets and a terminal one. The leaflets re coriaceous, 4 to 6 inches long, oblong, lanceolate, emarinate, smooth, or only slightly tomentose and full of ellucid dots. The leaves of several species of *Piper* are also nown in Brazil as Jaborandi, and should not be confounded ith the *Pilocarpus* variety. True Jaborandi is a powerful idorific and sialogogue; after a time a large dose cts as an emetic, contracts the pupil of the eye, and uses the approximation of vision. These properties are rincipally due to an alkaloid **Pilocarpine** contained n it. For Jaborine and other constituents, *v.p.*309.

Possessing such marked physiological properties, aborandi has been used in a great variety of diseases, nost successfully in asthma, diabetes, and as an antidote o belladonna poisoning. Children proportionately are ot affected by the drug so much as adults. Description nd physiological action (on the writer).—P.J. 1874,364; nd 1875,561; L. i./75,138; B.M.J. i./75,142; M.T.G. ./75,92. According to *F. Ital.* should contain ½ to 1 er cent. of pilocarpine; of late inferior sorts have not ielded above $\frac{1}{10}$ per cent.

Description and botanical source.—P.J. 1875,581,641.

Two new varieties, *Pilocarpus microphyllus* and *P. rachylophus*.—P.J. 1894,1065,436.

The Jaborandi leaves of commerce.—P.J. ii./95,520, 539.

Pseudo-pilocarpine and pseudo-jaborine, both optically inactive, obtained from *Pilocarpus spicatus.*—P J. ii./97,83.

**Extractum Jaborandi** (Hydro-Alcoholic). B.P. 1885.

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.), in pills.

**Extractum Jaborandi Liquidum** (*Off.*), **Liquor Jaborandi.** 1 = 1 of leaves; in 45 % Alcohol.

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

**Tinctura Jaborandi** (*Off.*). 1 in 5 of 45 % Alcohol.

*Dose.*—30 to 60 minims (1·8 to 3·5 Cc.).

Physiological and therapeutical action.—L. i./75,157; B.M.J. i./75,543; i./79,137,177; ii./80,889; i./81,969.

Diabetes insipidus, 2 cases relieved by Jaborandi.—L. ii./75,242. Unsuccessful.—L. ii./75,775.

Puerperal albuminuria and convulsions, its effects on.—L. i./79,464.

Tension of accommodation, increase of lachrymal secretion and glistening scotomata caused by taking infusion of.—Pr. xxii.458.

The sweating and salivation from a full dose of Jaborandi or Pilocarpine persist from 2 to 4 or 5 hours, the symptoms come on in about 10 minutes after taking the dose if external conditions are favourable. Hypodermically the alkaloid acts in 3 to 5 minutes. A reduction of temperature on an average of 0·9° occurs under the influence of the drug. The face flushes first and then pales; it causes contraction of the pupil, tension of accommodation with approximation of the nearest and farthest points of distinct vision, and amblyopic impairment of vision from diminished sensibility of the retina. These effects do not last long. It is slightly narcotic, sometimes causes sickness in large doses, promotes secretion of milk and is antagonistic to atropine.—R.

**Pilocarpina**, Pilocarpine, *v.p.*307.

The pure alkaloid is a colourless syrupy liquid. It has been synthetically prepared from pyridine, pilocarpidine being an intermediate product.

**Pilocarpinum Hydrochloricum**, P.G.iv., **Pilocarpine Hydrochloride.**

*Dose.*—$\frac{1}{20}$ to $\frac{1}{3}$ grain (0·0032 to 0·02 Gm.) by mouth or $\frac{1}{10}$ to $\frac{1}{3}$ grain (0·0065 to 0·02 Gm.) hypo-

rmically. In minute granular snow-white crystals,
ghtly deliquescent and very soluble in water. Melts
204–205°C.—Jour. Chem. Soc. 1900,477.

**ypodermic Tablets** contain $\frac{1}{6}$ grain.

Useful in diphtheria, especially combined with the
e of Antitoxin.—P.J. ii /96,439.

**ilocarpinæ Nitras**, **Pilocarpine Nitrate** (*Off.*).

*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.), as
e hydrochloride.

In minute white granular snow-like crystals, but may
obtained in large white prismatic crystals. Soluble
in 8·2 of water, freely soluble in hot, but very slightly
cold alcohol. This salt, preferred in England, was
e first pure preparation of Pilocarpine prepared,
d obtained by the writer by crystallising it from
alcoholic solution, thus freeing it from impurities.

Some commercial samples of Pilocarpine Nitrate have
wer melting-point than others, and different rotatory
owers (one such caused strangury and vomiting).—
J. ii./96,1,437. This Petit and Polonowski said was
ie to Nitrate of Pilocarpidine or Isopilocarpine (Jowett)
hich they said existed in the salt to the extent of 50 per
nt. Pure Pilocarpine Nitrate melts at 177–178° C.;
2 per cent. aqueous solution rotates $[\alpha]_D = +82·2°$ C.;
ilocarpidine Nitrate melts at 158°C., its solution rotates
$\alpha]_D = +38·5°$ C.—P.J. i./97, 466. According to them
ilocarpine can be converted into Pilocarpidine by heat-
g with caustic soda or by fusion of the hydrochloride,
d that the two alkaloids are isomeric.—P.J. ii./97,83.
Ierck, however, says the above change is not a conversion
ito the substance originally described as Pilocarpidine
y him and Harnack.—P.J. i./98,385,449; Merck's
ep., 1897. Jowett confirms the difference between the
ilocarpidine of Harnack and Merck and of Petit and
olonowski, and to the latter proposes the name
sopilocarpine—this is an isomeride and possible con-
ersion product of Pilocarpine. True Pilocarpidine he
as been unable to obtain from the leaves or from Pilo-
arpine Nitrate at present in commerce. He further
hows that Jaborine of Harnack and Meyer is a mixture
f Pilocarpidine, Isopilocarpine and possibly traces of
ilocarpine.—Trans. Chem. Soc., 1900,473.

Dibromo-derivatives of, and constitution of Pilo-
arpine.—Proc. Chem. Soc. 1901,56; C.&D. i./01,537.

Isopilocarpine possesses only about one-tenth the salivating and sudorific action of Pilocarpine. No *Extractum Jaborandi Liquidum* was found to produce any atropine-like effect, and that in commerce has little activity.—B.M.J. ii./oo.1071; P.J. ii.'oo.461.

**Guttæ Pilocarpinæ, R.O.H.** Nitrate 0·5 in 100.

Used like Physostigmine to contract the pupil.

**Injectio Pilocarpinæ Nitratis Hypodermica, R.O.H. and T.H.** *Dose.*—2 to 6 minims.

Pilocarpine Nitrate 1, Distilled water 20.

G. H. has 1 grain in 10 minims, with following directions:—"To prepare the patient for the injection remove the night-shirt, wrap him closely in a warm blanket, and cover him with two more blankets. Put hot water bottles to his feet, and give him hot drinks freely. After the sweating has ceased, remove the blankets gradually, dry the skin thoroughly, and leave him between warm dry blankets."

**Hypodermic Tablets**, $\frac{1}{6}$, $\frac{1}{4}$ and $\frac{1}{2}$ grain (**0·01. 0·016 and 0·032 Gm.**).

**Hypodermic Lamels** contain $\frac{1}{4}$ grain (**0·016 Gm.**), and **Ophthalmic discs** $\frac{1}{500}$ grain, combined with gelatin.

**Lotio Pilocarpinæ**, for the hair.

Pilocarpine Nitrate 2 grains, Quinine Hydrochloride 8 grains, Glycerin 2 drachms, Rose Water 6 drachms. Applied locally, and used internally or hypodermically, Pilocarpine seems to have an action in promoting the growth of hair in alopecia. Used also in **Ointment**, 4 grains to the ounce of a mixture of lanoline and vaseline.

**Pilula Pilocarpinæ Nitratis.**

Pilocarpine Nitrate $\frac{1}{20}$ grain (0·0032 Gm.) with milk sugar and glycerin of tragacanth *q.s.* to make one pill.

**Pilocarpinæ Phenas**, Pilocarpine Carbolate.

A colourless oily liquid, soluble in water and alcohol. Under the name of **Aseptoline**, a solution 1 in 5000 in 2·75 per cent. Phenol solution has been used in America in phthisis and malaria, 3 to 5 Cc. being subcutaneously injected in the abdomen, and dose increased daily up to 6 to 8 Cc.

**Pilocarpinæ Salicylas**, Pilocarpine Salicylate.

*Dose.*—$\frac{1}{20}$ to $\frac{1}{2}$ grain (0·0032 to 0·032 Gm.).

In small colourless tabular crystals or white crystal- ne powder, with bitter taste, easily soluble in water.

The salts of pilocarpine possess all the before-mentioned operties of jaborandi in a marked degree; applied pically, they contract the pupil of the eye. Pilocarpine is tagonistic to atropine, and a complete antidote to poison- g by the latter. It promotes the growth of the hair in opecia. Large doses are powerfully diaphoretic, small es ($\frac{1}{20}$ grain) check night sweating of phthisis—does ot over-dry the skin.—Pr. xxiii.430; xxxiii.430; I.C. April 97,63.

To contract the pupil of the eye is less active (slightly) an physostigmine.—B.M.J. ii./79,364.

In intermittent fever $\frac{1}{7}$ to $\frac{1}{5}$ grain of nitrate promptly its short the chill, produces sweating, and avoids hot age altogether.—Pr. xxiii.365.

Summary of uses:—useful in nephritis, assists pains of bour, but will not originate them, diminishes urine in abetes; action similar to physostigmine but less irrita- ng, in diseases of the eye; said to promote growth of e hair.—Pr. xxiii.374.

Three hypodermic injections successful in a comatose se of uræmia, albuminuria, with convulsions and com- ete anuria.—Pr. xxiv.129.

In skin diseases where the secretion of sweat was more less altered, $\frac{1}{6}$ grain hypodermically twice a day found seful in prurigo, urticaria, and some cases of alopecia.— r. xxv.50; xxvi.128; M.T.G. ii./80,554.

In asthma, doses of $\frac{1}{5}$ to $\frac{1}{3}$ grain of the hydrochloride, ypodermically, given systematically at intervals, are very erviceable.—B.M.J. i./80,917,960.

Puerperal convulsions treated by injection of Pilo- rpine, pains became stronger, fœtus expelled, and rapid covery.—B.M.J. i./81,511; L. ii./86,1019.

Atropine poisoning successfully treated by pilocarpine —B.M.J. i./80,366; i./81,300; i./90,420; L. i./81 951.

Pilocarpine is an antidote to morphine, having ex- tly opposite effects on the blood-pressure, respiratory entre, and cerebrum.—L. i./89,497; P.J. 1889,703.

Action of injections of Pilocarpine on the hair, in one se changed colour from blonde to black, in another used rapid growth.—L. i./82,78; B.M.J. ii./89,779.

Cases of hydrophobia treated successfully by hypo- ermic injection.—L. i./82,1056; M.R. 1883,146.

Successful in diabetes.—L. ii./84,275 ; Pr. xlv.377.

Traumatic tetanus, 3 cases cured.—B.M.J. i./86 1276 ; Ed. M.J. 1887,848.

Restored secretion of milk, $\frac{1}{4}$-grain doses.—L.ii./85,885.

Politzer recommends its use in syphilitic disease of the labyrinth, but cautions against its abuse.—L.i./91,11 Pr. xlvi.457 ; B.M.J. ii./90,86.

Successful use in deafness.—L. ii./88.130 ; ii./89.643 ; i./92,701 ; ii./93,956 ; B.M.J. ii./89,220,285,286 ; i./90,234,1125 ; i./93,407. Unsuccessful cases.—B.M.J. ii./89,129,286.

Relieves itching of jaundice, and assists passage of gallstones.—Pr.xlii.210; B.M.J.i./89.119; L i./89.1157.

Pilocarpine useful in chronic articular rheumatism. Th.Gaz. 1890,461. Rheumatism of eyeball.—Pr.l.216.

Useful in uræmia, $\frac{1}{8}$ grain doses to induce profuse diaphoresis.—B.M.J. ii./90,391 , Pr. xlv.464.

Poisoning by 4 grains treated by atropine.—B.M.J.E. ii./91,157 ; P.J. 1891,454.

Of great use in chronic thickening of the skin, chronic eczema and prurigo senilis, useless in psoriasis and subacute eczema.—B.M.J. i./92,265.

Hypodermic use in aural affections a failure : some good results from its local application to Eustachian tube and tympanum.—B.M.J. ii./93,570.

Use in nervous deafness.—B.M.J. ii./95,1219,1220.

Case of uræmic puerperal eclampsia cured by pilocarpine.—B.M.J. ii./900,748.

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## JALAPA *(Off.)*.

**Jalap.** *Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).
The dried tubercles of *Ipomœa Purga*.

**Extractum Jalapæ** (*Off.*) Hydro-alcoholic.
*Dose.*—2 to 8 grains (0·13 to 0·52 Gm.).

**Jalapæ Resina** (*Off.*) and P.G.
*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

This contains Mayer's two glucosidal resins, chiefly **Convolvulin**, insoluble in ether, with his **Jalapin** (**Orizabin** of Flückiger), soluble in ether. The latter, the principal constituent of spurious Jalap (*Ipomœa simulans* and *I. orizabensis*), is identical with **Scammonin** (*dose*, 1 to 5 grains) from scammony root.

**Jalapin** of British makers (*dose*, 1 to 5 grains) consists of the mixed decolorized resins, in whitish amorphous powder (the Jalapurgin of Maisch and Flückiger), obtained from true Jalap; unfortunately Mayer's **Jalapin (Orizabin,** *dose*, 2 to 6 grains), being cheaper, has tended to replace it, but is a less active purgative. The official resin is said to be more active than either. – P.J. 1892,1079,20,86.

**Sapo Jalapinus**, P.G. *Dose.*—2 to 6 grains (**0·13 to 0·4 Gm.**). Jalap Resin 4, Medicinal Soap 4, Alcohol 8. Dissolve and evaporate to 9.

**Pilula Jalapæ**, P.G. Jalap Soap 3, Jalap in powder 1. In pills of 0·1 gramme each (1½ grains). *Dose.*—1 to 3.

**Pulvis Jalapæ Compositus** (*Off.*). *Dose.*—20 to 60 grains (**1·3 to 4 Gm.**).

**Tinctura Jalapæ** (*Off.*). *Dose.*—½ to 1 drachm (**1·8 to 3·5 Cc.**). About 1 in 5 of Alcohol (70 per cent.). Standardised to contain 1·5 per cent. of Resin.

**Tinctura Jalapæ Composita, I.C. Add.,** *v.p.* xxix. *Dose.*—30 to 60 minims.

Jalap 8, Scammony 2, Turpeth Root 1, percolate with Alcohol (60 per cent.) *q.s.* to 100.

## JAMBUL.

*Dose*, in cachets, 5 to 30 grains (**0·32 to 2 Gm.**), increased.

The seeds of *Eugenia Jambolana* (*Syzygium Jambolanum*), also known in India as **Jamun**, have been used in cases of diabetes; they check the conversion of starch into sugar and contain a glucoside Antimellin. Administered in powder, or in pills or cachets.—B.M.J. i./87,617; ii./87,1459; i./88,901,1112; L. ii./87,604, 733; i./88,868; P.J. 1888,921,508; Pr.xl.450; xli.416.

**Extractum Jambul Liquidum**. 1 = 1 of seeds. *Dose.*—½ to 2 drachms (**1·8 to 7 Cc.**).

### *References.*

Controlled diabetes induced by phloridzin. —L. ii./89, 902; C. & D. ii./89,85.

Always reduced sugar present, but in no case removed it entirely. —Pr. xlvi.456; B.M.J.E. i./91,103; i./92,11; M.C. May, 1891,136.

Is of value in diabetes; doses of 450 grains daily.—M.C. Feb. 1892,321.

Recommended by Therapeutic Committee, B.M.A., for trial, in doses of 1 drachm to 1 ounce of fresh powder daily, with requisite modifications of diet.—B.M.J. ii./91,1284.

Acted almost specifically in reducing amount of sugar present; advantageously combined with meat diet.—B.M.J.E. i./92,39.

## JUGLANDIN.

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.) in a pill with mucilage.

The powdered extractive obtained from inner bark of root of butter-nut, *Juglans cinerea*. Colour dark brown. Is laxative and cathartic, without debilitating; useful in habitual constipation and biliousness.

A moderately powerful hepatic and mild intestinal stimulant.—B.M.J. i./79,177; Pr. xxiii.337.

**Spiritus Nucis Juglandis,** distilled from the walnut, *Juglans regia*, is used as an antispasmodic, and for checking sickness of pregnancy. *Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

## KAOLINUM.

**Kaolin** (*Off.*). **Bolus Alba, P.G., P. Jap.**

Native white aluminium silicate, which has been purified by elutriation from free silica and undecomposed felspar; it is a pearly white powder, unctuous to the touch and free from grittiness. It forms a useful absorbent powder to apply to infants and to irritated conditions of the skin generally. A special preparation, agreeably perfumed, having similar chemical and physical properties, is sold under the name of Cimolite. It is a pure white soft powder. Kaolin is unacted upon by most chemical reagents; it is, therefore, useful for diluting such salts as silver nitrate and potassium permanganate, either to form them into powders or into pills.

**Unguentum Kaolin.**

Vaseline 1, Paraffin 1; melt, add Kaolin 1, and stir till cold. Spread on rag to apply to abraded skin, it allays irritation. It forms a useful excipient for nitrate of silver, permanganate or bichromate of potassium, and gold and sodium chloride pills, *v.p.*97.

**Absorbent Powders.**—In addition to Kaolin the following are used medically :—

**Compound Boracic Acid Powder,** *v.p.*5.

**Dimatos.** A light infusorial earth, consisting principally of silica.—P.J. ii./90,xl.

**Emol.** A siliceous product containing alumina, lime and steatite. Softens horny epidermis, relieves itching, and is a good dusting powder. B.M.J. ii./93, 474; P.J. 1893,183; L. ii./94,920.

**Fuller's Earth,** also a native aluminium silicate, with traces of iron, grey in colour when in powder.

**Talc,** a native foliaceous magnesium silicate; that obtained from the Tyrol—Venetian Talc—is very soft and unctuous.

**French Chalk,** a harder silicate of magnesium than talc, forms a soft powder.

**Selenite,** a transparent variety of gypsum, native calcium sulphate reduced to powder, is soft and pearly.

**Kieselguhr,** a diatomaceous earth, known as white peat: when burnt produces an extremely light ash, which is very absorbent and antiseptic.

**Oxychloride of Bismuth,** *v.p.*101.

**Oxide of Zinc,** various **Starches,** powdered **Orris Root,** and mixtures of these, perfumed, are employed for toilet purposes.

Pulvis Zinci et Amyl, *v.p.*172.

**Calamina Præparata,** Prepared Calamine, B.P. 1885.

*Syn.* LAPIS CALAMINARIS PRÆPARATUS.

Impure zinc oxide prepared by calcining native Calamine (zinc carbonate) and reducing it to an impalpable powder; should be almost entirely soluble in diluted sulphuric acid, to which solution, when potash or ammonia is added in excess, the precipitate first formed is re-dissolved. Genuine Calamine, on account of its physical characters, when of a neutral flesh tint, is preferred to the other zinc powders, as a dusting powder, or for making lotions.

**Ceratum Calaminæ, P.L.**

*Syn.* TURNER'S CERATE.

Calamine and Yellow Wax, of each 15, Olive Oil 40. A useful application to burns.

**Linimentum Calaminæ, G.H.**

Prepared Calamine 20 grains, Zinc Oxide 15 grains, Solution of Lime 2 drachms, Water 2 drachms, Olive Oil to 1 ounce. (U.C.H. Calamine levigated 40 grains, Zinc Oxide 20 grains, Olive Oil 5 drachms, Lime Water to 1 ounce.)

**Lotio Calaminæ, U.C.H.**

Levigated Calamine 40 grains, Zinc Oxide 20 grains, Glycerin 20 minims, Water (or Rose Water) to 1 ounce. Elutriate the calamine and zinc oxide by triturating them in a mortar with successive portions of the water and decanting from the siliceous matter, and add the glycerin. Used in eczema, especially where the surface is red and tender, also to conceal acne spots on the face. One grain of mercuric chloride may be added to 6 ounces of it.

**Unguentum Calaminæ, B.P. 1885.**

Prepared Calamine 1, Benzoated Lard 5.

## LANÆ ADEPS.

### Adeps Lanæ. Wool Fat (*Off.*). P.G.iv.

ANHYDROUS LANOLINE, *in early editions*. *Syn.* ANASPALINE.

The purified cholesterin fat of sheep's wool. A yellowish, tenacious, unctuous substance, almost inodorous, melting from 104° F. to 112° F.

**Adeps Lanæ Hydrosus. Hydrous Wool Fat** (*Off.*), **P.G.** (with 75 per cent. of fat).

Commonly known as 'Lanoline'—a trade mark. Wool Fat 7, Distilled Water 3. Melt and mix.

Yellowish white, free from rancid odour. If heated the watery portion separates from an upper oily layer. More water may be incorporated with it without affecting its consistence. It is partially soluble in alcohol, while ether and chloroform dissolve only the fats it contains.

Originating from keratinous tissue, Wool Fat has affinity for, and is readily absorbed by, the skin. It causes no irritation, and is useful in massage. It helps absorption of narcotic extracts, quinine, iodine, potassium iodide, and chaulmoogra oil. Iodine appears in the urine in three minutes after friction. Washing the skin with ether facilitates its absorption. It is more readily absorbed in children than in adults. Useful combined with chrysarobin in psoriasis, ringworm, and tinea favosa, and with salicylic acid for eczema; or with mercury, as in

**Lanolinum Hydrargyri.**

Mercury 100, Lanoline 200, Mercurial Ointment 5, Mutton Suet 50. Is specially useful for inunction in syphilis. The effect is much more rapid than that of Mercurial Ointment; should be used daily 4 to 8 times after a hot bath.—M.P.C. ii./86,327; L. i./93.925.

**Unguentum Hydrargyri, P. Aus. Add.**, *v.p.*264.

Mercury 200, Anhydrous Wool Fat 100, mix *s.a.*, and add previously melted together and cooled, Suet 100 and Lard 200, *v.p.*264.

**Lanolimentum Boroglycerini**, *v.p.*4.

**Sapolanoline.** Lanoline 5, Soft Soap 4.

Recommended for acne and eczema.

**Unguentum Adipis Lanæ, P.G. iv.**—Wool Fat 20, Water 5, Olive Oil 5.

**Unguentum Lanolini, Lanoline Ointment.**

Lanoline (hydrated) 2, Soft Paraffin or Vaseline 1. Mix. May be perfumed to form **Lanoline Cream.** These are much less sticky than Lanoline.

Essay on Lanoline by Liebreich; its characters and uses.—B.M.J. ii./85,1075; B.M.J. ii./86,1757.

Its rapid absorption is due to the similarity between it and the natural fat of man's epithelium.—B.M.J. ii./86, 572.

Lanoline is unfavourable to the percolation and development of micro-organisms. If mixed with mercuric chloride is as efficacious as an aqueous solution of the salt.—B.M.J. ii./88,1059; L. i./89,853.

While favouring local action of incorporated substances, it retards their absorption.—P.J. 1889,865.

Experiments with lard, lanoline, and vaseline, showing lanoline to be the slowest, vaseline the quickest, basis for drugs requiring absorption.—P.J. 1890,206.

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## LEPTANDRIN.

*Dose.*—¼ to 2 grains (0·016 to 0·13 Gm.) in a pill.

A dark greenish brown resinoid powder obtained from culvers root, *Leptandra virginica.* It excites the liver and promotes flow of bile, without any irritation of the bowels administered twice or three times a day.

Is useful in dyspepsia, diarrhœa, and cholera infantum. One grain is a very useful cholagogue and alterative; 2 grains have an aperient action; acts well combined with podophyllin in bilious headache.—B.M.J. ii./76,113.

On dog a moderate hepatic, but feeble intestinal stimulant.—B.M.J. Rep. 1878,66; Pr. xxiii.410.

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## LIQUORES CONCENTRATI.

### Concentrated Solutions (*Off.*).

This class of preparations introduced into the British Pharmacopœia is intended to take the place of commercial concentrated decoctions and infusions. If one volume be diluted with nine volumes of water, these dilutions may be prescribed in place of the corresponding infusions and decoctions, from which they "differ in minor respects," and they "contain a small quantity of ethylic alcohol."

Those of **Chiretta**, **Cusparia**, **Krameria**, **Quassia**, **Rhubarb**, and **Serpentary** are prepared by percolation with 20 per cent. alcohol, that of **Senega** with slightly stronger alcohol. They are of the uniform strength of 1 in 2, except Quassia 1 in 10, and the *dose* of each is ½ to 1 drachm (1·8 to 3·5 Cc.).

**Liquor Calumbæ Concentratus** (*Off.*), 1 in 2, is prepared by double maceration with cold water, heating to 180° F., and adding Alcohol (90 per cent.) 4½ parts in 20. *Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

**Liquor Sarsæ Compositus Concentratus** (*Off.*). Sarsaparilla 20, Sassafras 2, Guaiacum 2, Liquorice 2, and Mezereon 1, are digested in three successive portions of water at 160° F., concentrated, and Alcohol (90 per cent.) 4½ added, to produce 20. *Dose.*—2 to 8 drachms (7 to 30 Cc.).

**Liquor Sennæ Concentratus** (*Off.*) is prepared by repercolation, with water as a menstruum, heating the product to 180° F., and preserving with Alcohol and Tincture of Ginger. Strength 1 in 1. *Dose.*—½ to 1 drachms (7 to 30 Cc.).

**Infusum Digitalis Concentratum, B.P.C.**, *v.p.* 217.

**Infusum Gentianæ Compositum Concentratum, B.P.C.**, *v.p.* 96.

## LITHIUM.

**Lithii Benzoas, Lithium Benzoate, U.S.**

*Dose.*—2 to 10 or 30 grains (0·13 to 0·65 Gm.).

Usually a light white crystalline powder, soluble 1 in 4 of water; contains about 95 per cent. of benzoic acid. Used as an antilithic.

**Lithii Bromidum, Lithium Bromide, U.S.**

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

A white granular salt, very deliquescent, odourless, having a sharp, somewhat bitter taste and neutral reaction; very soluble in water and alcohol. A given weight contains nearly half as much more of bromine as the same weight of potassium bromide, and its effect as a bromide is said to be even greater than this ratio, especially as a hypnotic, and in epilepsy. Of great use in Bright's disease.—L. ii./95.685.

**Lithii Carbonas, Lithium Carbonate** (*Off.*).

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

Tablets, 5 grains (0·32 Gm.).

**Lithii Citras, Lithium Citrate** (*Off.*).

*Dose.*—5 to 10 grains (0·32 to 0·65 Gm.).

Tablets, 5 grains (0·32 Gm.).

**Effervescent Lithium Citrate** (*Off.*).

*Dose.*—1 or 2 drachms (4 to 8 Gm.). Contains 1 in 20.

**Varalettes of Lithia—Effervescent Tablets.**

The Lithium Salts do not exercise any special solvent action on sodium bi-urate, and are useless when given to remove uratic deposits. L. i. 98,1609.

**Lithii Glycerophosphas**, *v.p.*24.

**Lithii Guaiacas, Lithium Guaiacate.**

*Dose.*—5 grains (0·32 Gm.) in pill with syrup twice a day.

Prepared by digesting guaiacum resin in an aqueous solution of lithia, decanting the clear solution, evaporating, and scaling it. Contains lithia 1, guaiacum resin 3. Given for chronic gout and rheumatism.

**Lithii Hippuras, Lithium Hippurate.**

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

In light white minute crystals, freely soluble in water, is a powerful solvent of lithates; useful in gout and rheumatism.

**Lithii Salicylas, U.S., Lithium Salicylicum. P.G.iv.**

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.) for rheumatism and gout. A deliquescent white powder, soluble 1 in 1 of water.—L. ii./85,1161; Y.B. 1886,72.

**Effervescent Lithium Salicylate** contains 1 in 30.
*Dose*—1 or 2 drachms.

**Lithii Sulpho-Ichthyolas,** *v. p.*287.

**Lithii Tartras Acidus,** Lithium Acid Tartrate.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

A finely crystalline white powder, of special use in gouty cases with gum affections.—L. i./94,1614.

**Thialion.** *Dose.*—A teaspoonful in hot water.

An American specialty in granular powder is a laxative Lithia Compound.

**Uricedin.** A German specialty.

*Dose.*—1 to 2 drachms (4 to 8 Gm.).

In brownish-yellow granules, soluble in water, said to be prepared from concentrated lemon-juice by treating it with sulphuric and hydrochloric acids, neutralizing with soda, adding lithium citrate and evaporating to dryness. Recommended for gout, gravel, urinary calculi, articular rheumatism, and uric acid diathesis.—L. i./95,50.

**Urosin,** Lithium Quinate, *v. p.*412.

*Dose.*—5 to 15 grains (0.32 to 1 Gm.).

## LUPULINUM.

### Lupulin (*Off.*).

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.) in pill, with glycerin and spirit.

The bright brownish yellow, or yellowish brown glandular powder—lupulinic glands—separated from the strobiles of the hop—*Humulus Lupulus.* It is aromatic and bitter, and contains most of the active properties of the hop—the resin and volatile oil. B.P. says should not yield above 12 per cent. of ash but rarely gives less than 13 (Umney). It is used in insomnia and for alcoholism.

**Tinctura Lupulinæ, U.S.,** 1870. 1 in 8 S.V.R.
*Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).

**Tinctura Lupuli** (*Off.*) *Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.). Is prepared from the dried strobiles 1 in 8 Alcohol (60 per cent.). A much more aromatic preparation is made from fresh hops in an equivalent quantity.

## LYCOPODIUM.

### Clubmoss Spores.

The spores of *Lycopodium clavatum,* common club-moss, form a fine, mobile, inodorous, tasteless powder, with a pale yellow hue. Lycopodium is a strong repellent of aqueous moisture, floats on water, yet sinks in it after boiling. By strong trituration it coheres and eaves an oily stain on paper. It is immediately moistened by oily and alcoholic liquids, chloroform and ether, and, having great power in absorbing oils and oleo-resins, it is a useful excipient to form these into pills. It forms a good pill powder, protecting hygroscopic pills, is useful as a diluent for insufflations for the throat and ear, and as an inert dusting powder for excoriated and weeping surfaces of the skin. When ignited, it explodes with a flicker. Has been given in cases of frequent micturition, and irritation or spasm of the bladder.—L.ii./87,605; B.M.J.ii./90,1246; Pr. xlvi. 218.

**Tinctura Lycopodii.** *Dose.*—15 minims to 1 drachm (0·9 to 3·5 Cc.). Lycopodium, first soaked in ether and dried, 1, Alcohol (90 per cent.) 10.

## MALTUM.

**Malt.**—*Syn.* Byne.

Malted barley contains the ferment Diastase, which possesses the property, under certain conditions, of converting starch into dextrin and sugar (maltose). Malt flour and other preparations of malt are used medicinally to assist the digestion of starchy foods.

**Malti Pulvis.** *Dose.*—1 to 2 drachms (4 to 8 Gm.).

Malt flour or entire malt powdered, is added to baked wheaten flour in various proportions to form the popular nfants' foods. When these are mixed with hot water or a mixture of hot milk and water, the starch contained n the wheaten flour becomes soluble and digested into dextrin and malt sugar. The diastasic property of malt is most acute in aqueous solution at 140° F.—a boiling heat destroys it. A small teaspoonful of malt lour may be sprinkled over or mixed with cooked farinaceous foods, such as porridge, gruel, bread and milk, or arrowroot, when cool enough to sip, or it may be infused in a cup of coffee, glass of beer, or col water; the latter form pleasant and useful beverage when taken with meals, to assist the digestion of brea or other farinaceous food.

*Diastase* or *Maltine*, *Codex Supp.* Obtained b exhausting malt with tepid water, precipitating with alcohol, and drying under 45° C. Is a yellowish whit powder or in translucent scales.

**Extractum Malti, B.P.C..G.H.**—*Syn.* EXTRACTUM BYNES, MALTINE. *Dose.*—1 to 4 drachms (4 to 16 Gm.).

A syrupy, yellowish brown liquid, having a pleasant sweet taste, consisting principally of dextrin and malt sugar (maltose), and possessing some diastasic properties. It is made by mixing malt with tepid water, pressing, filtering, and evaporating below 131° F. Extract of Malt and its preparations are prescribed in cases of debility of all kinds, as a restorative, like cod liver oil, but particularly where digestion is weak. Its diastasic power is standardised by decoction of starch B.P.C.—B.M.J. i. 79,683; L. i./79,125; M.T.G. ii./78, 529; Pr. xxxii.340.

**Extractum Malti Liquidum**, Liquid Extract of **Malt, Bynin.**

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

In place of evaporating malt infusion to the viscosity of the last preparation, if it be concentrated until it has sp. gr. 1·375, and about 7 per cent. of alcohol added, making the finished product of Sp. Gr. 1·250, a liquid extract is formed which is more convenient for administration. It is stable, and should contain the diastasic properties uninjured by heat.—P.J. 1890, 417.

Solution of this extract, 10 to 20 per cent., recommended for injection into bladder in order to set up lacti fermentation and counteract ammoniacal decomposition causing cystitis and phosphatic formations.—L. i. 93,405.

**Extractum Malti Ferratum, G.H.**

Iron Pyrophosphate 2, Water 3. Dissolve and add Extract of Malt 95. *Dose.*—1 to 4 drachms (4 to 16 Gm.).

**Extractum Malti cum Oleo Morrhuæ, G.H., B.P.C.** *Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

The amount of oil in this preparation is variable—it should be at least 15 (20 G.H.) per cent.—P.J. 1894, 162. A little salicylic acid is often added to preserve it.

**Taka-Diastase.** *Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

A whitish powder obtained by the cultivation of a fungus, *Eurotium Oryzæ*, on bran; possesses amylolytic properties.—L. i./95,1332; i./96,856.

# MANGANESIUM.

## Manganese.

**Manganesii Oxidum Præcipitatum.**

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.), or more, in pills with syrup. Tablets, 2 grains (0·13 Gm.).

Consists principally of hydrated manganic oxide, a bulky blackish brown powder, free from grittiness and entirely soluble in cold hydrochloric acid. Useful in gastrodynia, and in amenorrhœa taken 3 or 4 times a day before expected period.—L. i./83, 7.

In chlorosis assists the action of iron salts.—B.M.J. ii./85,473.

Is equally potent for amenorrhœa and less irritant than the permanganates.—B.M.J. ii./86,1114.

**Manganesii Hypophosphis, Manganese Hypophosphite.**

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.).

A white or slightly rose-tinted powder, soluble 1 in 10 of water.

**Manganesii Phosphas, Manganese Phosphate,** Manganous Phosphate.

*Dose.* 1 to 5 grains (0·065 to 0·32 Gm.).

A white powder, generally with a pinkish tint, insoluble in water. From ½ to 1 grain is sometimes dissolved in 1 drachm of syrup of ferrous phosphate for a dose.

**Manganesii Sulphas, Manganese Sulphate.** Manganous Sulphate. *Dose,* of powder.- 2 to 10 or 60 grains or more (0·13 to 4 Gm.).

Is usually met with as a white powder with a faint pink tint, due to a little manganic sulphate. Crystals may be obtained with difficulty, in form like ferrous sulphate but with an amethyst tint. For jaundice, 60 grains is a cholagogue purgative.

It does not excite the liver, though it is a powerful excitant of the intestinal glands of the dog.—B.M.J. i./79,105,177.

**Potassii Permanganas**, Potassium Permanganate (*Off.*).

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.) in well-diluted solution, or in pill.

The oxidising and disinfecting properties of a solution of this salt are well known. The official **Solution** contains one per cent. The **Saturated Solution** 1 in 20 is more convenient for use. It is deep purple, and, when much diluted, crimson. Diluted 500 times, it is suitable for a lotion or gargle, or for pouring down sinks, drains, &c. It has the advantage over other disinfectants in having this distinctive colour, so that it cannot be mistaken for any other medicine; it has no disagreeable odour, and besides being a deodoriser, it quickly disintegrates all fetid and decomposing organic substances and albuminoid bodies, whether in a solid form or in solution, living or dead, with which it comes in contact. It destroys bacteria with great rapidity.—Jour. Chem. Soc. xxxix.258; P.J. 1881,765.

Potassium permanganate is used for dyeing white hair to a chestnut brown colour.

In amenorrhœa, 1 or 2 grains, in a pill 3 or 4 times a day for a few days before the time of the expected period, will bring on the flow almost to a certainty.—L. i./83,7; i./85,59,70,189,322,647,925; i. 88,642; B.M.J.i./85,778.

In gonorrhœa, solution of ½ grain in 1 ounce recommended as an injection.—L. i./83,45,86.

Danger of ulceration being caused by permanganate tablets.—B.M.J. i./85,308,413,516,764,974.

Abortion brought on by its use, two cases.—Th. Gaz. 1887,282,356.

For counteracting serpents' venom.—L. i./83,768, 967; ii./83,461; i./84,288; i. 88,1007,1115.

Rattlesnake poisoning treated successfully by free injection of 15 per cent. solution. 90 grains used in multiple injections with free incisions.—Th. Gaz. 1892,9; B.M.J. ii./92,728.

Potassium permanganate is, perhaps, one of the best remedies for morphine and opium poisoning, as it decomposes the alkaloid when in solution, but the two must come into contact.—B.M.J. i./94,649; ii./95,76; i./96,82,1193,1194; P.J. i./96,413; Pr. liii.43,222; L. ii./97,1113.

A successful antidote to phosphorus, *v.p.*376.

Also antidotal to muscarine, strychnine, colchicum, savin, and oxalic acid poisoning in animals; and if administered immediately, to cyanide of potassium.—B.M.J.E. i./93,76; P.J. 1893,343; 1894,622.

**Pilula Potassii Permanganatis.**

Potassium Permanganate ... 1 grain (0·065 Gm.), or more if ordered.

Kaolin Ointment (*v.p.* 314) ... *q.s.*

To make a pill, care must be taken not to triturate Potassium Permanganate with any easily oxidised substance, like sugar, syrup, or glycerin, else spontaneous combustion may occur. The pills may be coated with sandarach solution and rendered tasteless. A solution of Potassium Permanganate is very nauseous.—L.i./83,81, 107; P.J. 1883,580,600,620.

**Calcium Permanganate.** *Syn.* MONOL.

Is preferred for making mouth lotions, as it has least taste. Possesses far greater sterilising power than potassium permanganate. 1 in 100,000 to sterilise water in 5 minutes.—P.J. i./95,1092; ii./95,69.

**Sodium Permanganate**, in solution, green in colour, is used as a cheap disinfectant, and

**Zinc Permanganate**, in deliquescent dark brown iridescent crystals, like the Potassium salt, is used for lotions and injections, where the astringent action of the zinc is indicated, *v.p.* 472.

**Liquor Ferro-Manganesii Peptonati,** *v.p.*244.

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## MENISPERMIN.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) in a pill with glycerin of tragacanth.

The powdered extractive of a pale brown colour obtained from the root of yellow parilla—*Menispermum fenestratum*—and *M. canadense.* Is an alterative tonic, laxative, diuretic, stimulant, and resolvent, useful in indigestion.

**Pilula Menispermin.** 2 grains (0·13 Gm.) in each.

Taken three times a day, is a tonic, laxative, diuretic, and alterative.—L. ii./62,20.

On the dog is a slight intestinal, but not a hepatic stimulant.—B.M.J. ii./78,909; Pr. xxiii.423.

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## MENTHOL (*Off.*).

METHYL-PROPYL-PHENOL HEXAHYDRIDE.

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) or more in a pill with powdered soap, or in solution in olive oil.

A white crystalline substance resembling magnesium sulphate in appearance if dry, or in long needles, sometimes in crystalline masses, moist from adhering liquid oil. Imported principally from Japan and China, and obtained from *Mentha arvensis, vars. piperascens et glabrata*, and of *M. piperita.* it melts at 107·6° F. It is insoluble in glycerin, but soluble 5 in 1 of 90 per cent. alcohol, also freely in ether, chloroform, and fixed and volatile oils; sparingly soluble in water, but imparts to it the strong odour and taste of peppermint. It produces a warmth and glow on the tongue, and sensation of coolness on drawing the breath over it. Given internally, it acts as a diffusible stimulant. Its solutions, applied topically to the skin in a similar manner, affect the nerves of the part somewhat like aconite, and form useful pigments for neuralgia, having the advantage of being non-poisonous. It has powerful antiseptic properties, but is not caustic; its action more resembles that of an anæsthetic, and gives great relief in prurigo. The moist variety is put up and sold, moulded into sticks and pencils, for relieving neuralgia; this kind of Menthol, having a low melting point, liquefies when gently rubbed on the painful part. **Pipmenthol** is obtained from American oil, and has a melting point of 104° F.

Equal parts of Menthol and Thymol rubbed together liquefy and form an oily liquid, and similar liquefactions take place on triturating respectively equal parts of Menthol and Absolute Phenol, equal parts of Menthol and Chloral Hydrate, 3 parts of Menthol and 2 parts of Camphor, 2 parts of Menthol and 1 part of Butyl Chloral Hydrate, and 2 parts of Menthol, with one of each Phenol and Butyl Chloral Hydrate. These form colourless transparent oily fluids; when applied on cotton wool are useful for relieving toothache arising from carious teeth, or preparing them for stopping; the pain is promptly relieved, and all symptoms obtunded during the process of filling. Its Camphor and Phenol combinations are used to medicate oro-nasal and other dry inhalers, and for this purpose *Menthol, Camphor*, and *Oil of Eucalyptus* form a serviceable mixture for arresting and curing colds, and relieving influenza and chest affections.

Menthol Camphor, diluted with a heavy mineral oil, relieves swelling and irritability of nasal catarrh, contracts capillary blood-vessels of mucous membrane, reduces swelling, relieves pain and fulness of head, arrests sneezing, checks excessive discharge, and corrects perverted secretion.—Th. Gaz. 1892,64.

**Emplastrum Menthol,** Menthol Plaster (*Off.*). Menthol $1\frac{1}{2}$, dissolved in melted Yellow Wax 1, and Resin $7\frac{1}{2}$. Useful for rheumatism and intercostal neuralgia.

**Gossypium Menthol, T.H.**

Absorbent wool is impregnated with an ethereal solution of menthol, so as to contain when dry, 10 per cent. of the drug. Useful to plug the nostrils in catarrh.

**Linimentum Menthol.**

Menthol 3, Chloroform 4, Olive Oil *q.s.* to 16; is useful in lumbago, neuralgia, sciatica, and ringworm of the scalp.

**Menthol cum Aconitina.** Add Aconitine 1 grain, in 90 per cent. Alcohol 20 minims, to Menthol (melted) to make 300, 400, or 500 grains. Divide into 60-grain cones.—P.J.1887,252.

**Mentholeate.** Menthol 200 grains, Oleic Acid $\frac{1}{2}$ ounce. Heat gently to dissolve. Useful in pruritus, etc., where absorption is desired.—Pr. xl.65.

**Pastillus Menthol, T.H.,** contains $\frac{1}{6}$ grain.

**Pigmentum Menthol, G.H.**—1 to Olive Oil 4. Painted or injected into the larynx, or even the trachea, useful in phthisis and laryngeal disease. Also applied on wool for ear affections.—Pr. xlvi. 142; B.M.J. ii./92,252. Solution (1 in 8) in liquid paraffin is used for spray or pigment for throat (see p. 317). A **Snuff** for nasal catarrh, consisting of menthol 1, ammonium chloride 3, boric acid 2, gives great relief.—Ed.M.J. 1888, 625; B.M.J. ii./88,710; i./92,1003; Th. Gaz. 1889,546. Another formula: menthol 1, boric acid 10, ground coffee 10.

**Tabellæ Menthol.** *Dose.*—1 or 2, *ad libitum*. Contain $\frac{1}{5}$ grain menthol, combined with chocolate, the oil of which fixes it.

**Tinctura Menthol Ætherea.**

Menthol 1, Purified Ether to 8. Best applied with a glass brush.—See p. 44.

Menthol 1, Chloroform 10, Ether 16, as a spray, produces temporary local anæsthesia.—Pr. liv.189.

As an antiseptic and antineuralgic, 1 in 60 of rectified spirit, with a little oil of cloves added; useful in sciatica, intercostal neuralgia, and the crystals on cotton wool for toothache.—L. i./79,822; L. ii./79,335,376,448.

Sciatica, 3 cases relieved by applying alcoholic solution 1 in 20, might be used 1 in 10.—L. ii./79,750.

Ringworm of the scalp, recommended and used for with success, 1 part Menthol in 4 volumes of chloroform and 12 volumes olive oil.—L. i./81,241.

Useful in pruritus vulvæ, rubbed on solid; relief lasts several days, and congested colour disappears.—B.M.J. ii./88,491.

Useful in $\frac{1}{2}$ to 1 grain doses in vomiting of pregnancy. Pr. xliii.450; B.M.J. i./90,1382; Th. Gaz. 1890,288, 504; B.M.J.E. ii./92,62.

In acute affections of the nose and throat, stimulates the contraction of bloodvessels, arrests sneezing and discharge, and relieves pain and fulness of head, when inhaled by vaporisation or from a mouth-piece inhaler. It is antiseptic and germicide.—M.P.C. i./90,34.

Injection of menthol 1 grain in olive oil 1 ounce useful against threadworms.—L. i./93,17.

**Po-ho-yo.**—Chinese oil of peppermint is sold as Japanese Drops or *Gouttes Japonnaises* for neuralgia, in little bottles and cases, labelled with Chinese characters. It is rich in Menthol, which crystallizes and solidifies the oil when exposed to cold.

**Validol.** *Dose.*—10 to 15 minims (0·6 to 0·9 Cc.). A specialty said to contain 30 per cent. of menthol in methyl valerianate, is a colourless liquid with an agreeable odour and free from burning taste of menthol. Given in wine or on a lump of sugar it acts as a useful analeptic in the depression of hysteria or in neurasthenia.—P.J. ii./98,661.

In anorexia and vomiting of phthisis. *Dose.*—15 to 20 drops.—Therap. 1900,56.

# METHYL CHLORIDUM.

## Methyl Chloride.

This gas, compressed into metal cylinders, is used as a local anæsthetic; applied as a jet, it freezes the part by the intense cold it produces.

The tension of its vapour not being high, and not increasing very rapidly with the temperature, under a pressure of about six atmospheres its liquefaction is easily effected.

Methyl Chloride may be employed in all kinds of small operations—circumcision, opening abscesses, and in neuralgia, lumbago, muscular pains, gout, etc. In scraping lupus it is best applied by means of a camel-hair brush, as special parts can then be anæsthetised with perfect precision. For the above purposes the chloride should be contained in a glass tube surrounded by a vacuum, which prevents its quick volatilization, known as a 'thermo-isolator.'—B.M.J. ii./88,243; ii./89,888; P.J. 1889,256; B.M.J.E. ii./93,7.

It has been used in the treatment of sciatica with success, also in articular rheumatism (acute and sub-acute), nodular and chronic rheumatism, stitches in the side, pleurisy, tuberculosis, and pneumonia. The spray is applied obliquely, not perpendicularly, on the cutaneous surface, and only for five or six seconds, else, if prolonged, blisters or eschars may result.—B.M.J. i./85,813. Sprayed on skin of face for neuralgia has been found useful.—B.M.J. i./86,714; L. i./88,489. Not adapted for general anæsthesia.—B. M.J. i./88,1211.

Painting surface with glycerin avoids ill effects on the skin.—Th. Gaz. 1889,116.

The skin may first be rendered insensible by application of the chloride on cotton wool; anæsthesia is then slower. Results of use all satisfactory.—Ed. M.J. 1890,580; Th. Gaz. 1890,691.

**Anestile** and **Coryl**, *v.pp.* 52, 53.

## METHYLAL.

*Dose.*—15 to 30 minims (0·9 to 1·8 Cc.) in aqueous mixture.

Is recommended as an anæsthetic and hypnotic. It is prepared by distilling methyl-alcohol with an oxidizing mixture of manganese dioxide and sulphuric acid, and treating the distillate with potash lye to separate methyl formate, which passes over with the Methylal. Methylal is a colourless, mobile, volatile liquid, Sp. Gr. 0·855, boils at 42° C., is slightly acid to litmus, has an odour recalling those of chloroform and acetic ether, and a burning aromatic taste, but produces a cold sensation when placed on the skin. It augments the heart-beats, slightly lowers the blood-pressure, and causes slower and deeper respirations. It is antidotal to strychnine, suspends the spasm, and has been given to relieve nervous stomachic pains,—1 in 60 to 100 parts of diluted syrup.—L. ii./86,888.

It has been used as an anæsthetic and given with success internally for delirium tremens.—B.M.J. i./88, 481. It is reported not to depress the heart's action, either inhaled or given internally.—L. i./87,951; B.M.J. i./88,481.—If added to Amyl Nitrite in the treatment of angina it lessens the suddenness of the action of the nitrite.—Asclepiad, Feb. 1887.

## METHYLENE.

*Syn.* Formerly called METHYLENE BICHLORIDE.

Under this name is sold an anæsthetic, which is a dense colourless ethereal liquid, with a chloroform like odour.

Given 1800 times without ill effects; it is more rapid in producing unconsciousness than chloroform, and quicker in passing off.—L. i./72,671: 1230 other cases.—B.M.J. ii./88,72.

Deaths from inhalation of.—B.M.J. ii./74,823; ii./75,113; ii./84,826,975; ii./91,572; L. ii./90,768, 898; ii./91,486; ii./96,784.

## MOLLINUM.

## Mollin.

A white inodorous superfatted soap, containing about 17 per cent. excess of fatty matter. It is of unctuous consistence, and is recommended as a basis for ointments in place of lard, lanoline, &c., as it is readily washed off with water, with which it forms a lather. It thus leaves the skin fresh and supple, and it makes no grease spots on linen. It is to be preferred to petroleum bases where absorption is required, and is specially recommended in combination with mercury, and with iodide of potassium, forming **Mollinum Hydrargyri** and **Mollinum Potassii Iodidi**; these contain 33 per cent. and 10 per cent. respectively of mercury and potassium iodide. It is not even incompatible with mercuric chloride, with which it forms a useful application for gynæcological cases in 1 per cent. admixture or weaker. It blends well with respectively 3 to 5 per cent. of phenol and salicylic acid and thymol, and with tar (birch tar particularly) 10 to 20 per cent. for psoriasis;—with 30 to 50 per cent. of sulphur or 10 per cent. of storax for acne and scabies:—with 5 per cent. of chrysarobin or naphthol;—and with 10 per cent. of ichthyol, resorcin, iodoform, naphthalene, or white precipitate.

# MORPHINA.

## Morphine.

*Dose.*—$\frac{1}{10}$ to $\frac{1}{3}$ grain (0·0065 to 0·02 Gm.)

This alkaloid, to which the medicinal effects of opium are principally due, in the pure state is, if precipitated from an aqueous solution of its salts, a white amorphous powder, or, if crystallized from an alcoholic solution, is in white, shining, transparent acicular prisms, insoluble in water and ether, freely soluble in boiling and but slightly in cold alcohol and fixed oils; soluble in caustic potash solution, milk of lime, and readily dissolved by acids, forming salts, from solutions of which it is precipitated by ammonia, but not by potash. The crystallized alkaloid is a hydrate containing one molecule of water of crystallization; it loses about 6 per cent. on drying at 90° C. 3 parts of morphine are medically and commercially reckoned equal to 4 parts of any one of the official salts. Morphine preparations are incompatible with those of ferric chloride.

Cure of a case of Morphine poisoning by inhalations of Oxygen.—L. ii./98,545,

**Oleatum Morphinæ.**

Morphine 1 (or more if ordered), Oleic Acid 60. Dissolve.

Oleic acid will dissolve as much as one-tenth of its weight of pure morphine. The addition of morphine is made to oleate of mercury applications when the latter cause much pain.—L. i./72,809.

**Morphinated Water** (*Off.*).

Chloroform Water saturated with Morphine; is used in testing opium.

**Morphinæ Acetas, Morphine Acetate** (*Off.*).

*Dose.*—$\frac{1}{8}$ to $\frac{1}{2}$ grain (0·008 to 0·032 Gm.), which may be increased.

In commerce a white amorphous powder, soluble 1 in 2½ of water (if recently made and not very dry), soluble also in alcohol. Liable to change and darken in colour.

The dose of morphine and of opium is often much increased when persons become addicted to their use. The writer, under medical direction, for several years anterior to 1868, dispensed for a lady, who had previously been a dipsomaniac, 6 dozen powders weekly, each containing 2 grains of morphine acetate and 6 grains of milk sugar. She took on an average over 20 grains of the morphine salt daily for years. She had taken powders containing as much as 8 grains of pure morphine acetate in each; the milk sugar was added gradually to replace the morphine, hoping to break her of the habit, but this had only the effect of making her take an increased number of the powders, so as to obtain about the same amount of morphine to satisfy her craving. Other cases of tolerance of large doses.—B.M.J. ii./88,1279,1386.

In hypodermic morphine habit sparteine sulphate is recommended to gradually replace the morphine solution, commencing with $\frac{1}{3}$, increased to $\frac{2}{3}$ grain, four to six times a day.—L. i./87,1278.

**Injectio Morphinæ Acetatis Hypodermica.**

1 grain in 6 minims. *Dose.*—1 to 2 minims.

Morphine (pure alkaloid) ... 60 grains.
Place in an ounce vial and moisten with
Distilled Water ... ... 6 drachms.
Add
Acetic Acid ... ... 40 minims, or *q.s.*
to make the solution barely bright after being kept

closed at a gentle heat for 24 hours. Then filter and sprinkle and wash the filter with sufficient

Distilled Water to make the
product measure exactly ... 1 ounce.

Shake to make uniform, and keep the solution from the light in stoppered bottles, the stoppers of which should be coated by rubbing the ground part over with soft paraffin. If the stopper be then inserted firmly, it prevents any oozing or incrusting of the morphine around the neck of the bottle; a few drops of glycerin added, will, it is said, prevent any incrustation. It has a straw colour, changing to vinegar-brown on keeping.—P.J. 1870,481; B.M.J. ii./80,728; B.M.J. i./81,146.

On account of the small quantity of liquid required to be injected, many practitioners prefer this Injection of Morphine Acetate, 1 grain in 6 minims. **Caution.**—As the official injection contains Morphine Tartrate, only 1 grain in 22 minims, the Acetate solution must be stored and used with great care. In B.P. 1885, the official Hypodermic Injection contained 1 grain of Morphine Acetate in 10 minims, and before that date, 1 grain in 12 minims was official. Care will be necessary in specifying the strength of the preparation when ordering the stronger solutions, *v.p.*335.

**Injectio Morphinæ et Atropinæ Hypodermica.**

Injection of Morphine Acetate.
(1 grain in 6 minims) ... 3 drachms.
Atropine Sulphate ... ... 1 grain.

*Dose.*—1 to 3 minims. 3 minims contain half a grain of morphine acetate and $\frac{1}{60}$ grain of atropine sulphate. Some practitioners prefer to use it *half* this strength. Although atropine is in many respects antagonistic to morphine, yet, given in combination with it in small doses, the former increases the sedative action and counteracts the disagreeable effects of the latter on the head, stomach, and bowels.

**Hypodermic Lamels** contain $\frac{1}{4}$ grain **Morphine** and $\frac{1}{4}$ grain **Morphine** with $\frac{1}{120}$ grain **Atropine** respectively, combined with gelatin.

**Ophthalmic Discs** contain $\frac{1}{500}$ grain **Morphine**, and $\frac{1}{500}$ grain **Morphine** with $\frac{1}{5000}$ grain **Atropine** respectively.

**Liquor Morphinæ Acetatis** (*Off.*).

*Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).

Morphine Acetate 1, Diluted Acetic Acid 2, Alcohol (90 per cent.) 25, Distilled Water to 100.

**Pastillus Morphinæ Acetatis** ($\frac{1}{30}$ gr.), *v.p.*256.

**Pastillus Cocainæ** ($\frac{1}{15}$ gr.) **et Morphinæ** ($\frac{1}{30}$ gr.), *v.p.*185.

**Pastillus Bismuthi Carbonatis cum Morphinæ Acetate**, *v.p.*255.

**Morphinæ Hydrobromidum, Morphine Hydrobromide.**

*Dose.*—$\frac{1}{8}$ to $\frac{1}{2}$ grain (0·008 to 0·032 Gm.).

In commerce is met with as a white amorphous powder resembling morphine hydrochloride, soluble 1 in 22 of water. Sometimes administered with hydrobromic acid as a sedative, and thought not to affect the head as much as other salts of morphine when given thus.

**Morphinæ Hydrochloridum**, **Morphine Hydrochloride** (*Off.*).

*Dose.*—$\frac{1}{8}$ to $\frac{1}{2}$ grain (0·008 to 0·032 Gm.), which may be increased. In a pill it may be combined with milk sugar and glycerin of tragacanth.

In silky white flexible acicular prisms, but usually met with in amorphous white powder, soluble 1 in 26 of water. It is stable, and the most frequently used of the salts of Morphine.

**Insufflatio Morphinæ**, Vict. Park.

Morphine Hydrochloride $\frac{1}{4}$ grain, Bismuth Oxychloride 1 grain, Starch $\frac{1}{2}$ grain.

**Linctus Morphinæ, U.C.H.**

Solution of Morphine Hydrochloride 3 minims, Spirit of Chloroform 3 minims, Treacle 60 grains, Water to 1 drachm. May be more agreeably flavoured with syrup of lemon.

*Dose.*—A teaspoonful 3 or 4 times a day; or the dose may be repeated frequently at times when cough is troublesome, till the paroxysm is subdued. It should be taken undiluted, swallowed slowly, and allowed to hang about the throat. For children of 8 to 14 years, dose 10 to 20 drops. It is not suitable for very young children, or where there is difficulty of expectoration in bronchitis.

**Linctus Sedativus.** Brompton H. *Dose.*—1 drachm.
Solution of Morphine Acetate 8 minims, Chloric Ether 3 minims, Lemon Juice 15 minims, Mucilage of Acacia to 1 drachm.

**Liquor Morphinæ Hydrochloridi** (*Off.*).
*Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).
Morphine Hydrochloride 1, Diluted Hydrochloric Acid 2, Alcohol (90 per cent.) 25, Distilled Water to 100.

**Suppositoria Morphinæ** (*Off.*).
Contain ¼ grain of hydrochloride in each. They are also usually kept, containing ½ and 1 grain, as well as other strengths.

**Trochisci Morphinæ** (*Off.*).
Contain $\frac{1}{36}$ grain (0·0018 Gm.) of the hydrochloride in each lozenge, with a sugar basis flavoured with tolu. They are more agreeable if made with black currant paste basis.

**Trochisci Morphinæ et Emetin,** *v.p.*306.

**Trochisci Morphinæ et Ipecacuanhæ** (*Off.*).
Contain $\frac{1}{36}$ grain (0·0018 Gm.) of morphine hydrochloride, with $\frac{1}{12}$ grain (0·0054 Gm.) of ipecacuanha in each. These lozenges are often given to allay cough—one 5 or 6 times a day.

**Morphinæ Meconas.**—Morphine Meconate.
*Dose.*—⅛ to ½ grain (0·008 to 0·032 Gm.).
This, one of the natural salts of morphine existing in opium, when pure, is in white minute acicular crystals, soluble 1 in 34 of water. It is said to disturb the head less, as well as derange the stomach and bowels less, than the other salts of morphine administered either by the mouth or hypodermically.

**Liquor Morphinæ Bimeconatis.** B.P. 1885.
*Dose.*—5 to 40 minims (0·3 to 2·4 Cc.).
The late official solution may be made as follows:—

| | |
|---|---|
| Morphine (pure Alkaloid) ... | 14½ grains. |
| Meconic Acid ... ... ... | 12 grains. |
| Alcohol (90 per cent.) ... ... | 1 ounce. |
| Mix and add Distilled water to ... | 4 ounces. |

A perfect solution is formed instantly. One ounce is said to contain about 5½ grains or 1¼ per cent. of morphine bimeconate, and as regards this is about the same strength as tincture of opium.

**Morphinæ Sulphas,** Morphine Sulphate.

*Dose.*—$\frac{1}{8}$ to $\frac{1}{2}$ grain (0·008 to 0·032 Gm.).

In hard white silky acicular crystals, is a stable salt of morphine and the one preferred in the United States. Soluble 1 in 23 of water.

**Hypodermic Tablets** contain $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$ and 1 grain; also combined with Atropine as follows:—Morphine Sulphate $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$, and $\frac{1}{3}$, with respectively $\frac{1}{200}$, $\frac{1}{180}$, $\frac{1}{150}$, and $\frac{1}{120}$ grain Atropine Sulphate.

**Liquor Morphinæ Sulphatis.** B.P. 1885.

*Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).

Morphine Sulphate 1, Rectified Spirit 25, Distilled Water to 100. Must be distinguished from that used in the United States, which contains 1 grain in an ounce of distilled water. A preparation known as Magendie's solution of morphine is also used in the United States; it is 16 times stronger than the last (containing 16 grains in the ounce). Magendie's solution in France is slightly weaker than that of the United States; it contains 1 part of morphine acetate in 37½.

**Morphinæ Tartras,** Morphine Tartrate (*Off.*).

*Dose.*—$\frac{1}{8}$ to $\frac{1}{2}$ grain (0·008 to 0·032 Gm.).

In small white nodular tufts of acicular crystals, readily soluble 1 in 10 of water.

**Injectio Morphinæ Hypodermica.** (*Off.*).

*Dose.*—2 to 5 minims (0·12 to 0·3 Cc.).

Morphine Tartrate 5, Distilled Water (recently boiled and cooled) *q.s.* to 100.

(Contains 1 grain in 22 minims. N.B.—Is slightly less than one-half the strength of the preparation bearing this name in B.P. 1885. *v. p.*333.

**Hypodermic Lamels of Morphine Tartrate** contain $\frac{1}{6}$ grain and $\frac{1}{4}$ grain, also $\frac{1}{6}$ grain, combined with **Atropine** $\frac{1}{100}$ grain.

**Liquor Morphinæ Tartratis** (*Off.*).

*Dose.*—10 to 60 minims (0·6 to 3·5 Cc.).

Morphine Tartrate 1, Alcohol (90 per cent.) 25, Distilled Water to 100.

Discussion on the largest safe dose and the smallest fatal one.—B.M.J. i./89,895.

Morphine in diabetes as compared with Codiene;—more powerful, controlling the formation of sugar more completely; amount required only $\frac{1}{4}$ that of codeine; narcotic symptoms rarely follow when given every 3 or 4 hours by mouth (not applicable to hypodermic administration).—Pr. xli.16; Th. Gaz. Sept. 1888,618. Confirmations.—Pr. xlii.374; B.M.J. i./89,118; Y.B. 1890,307.

Antagonism of atropine, $\frac{1}{20}$ grain = 1 grain of morphine in cases of poisoning; small doses of the former should be frequently repeated hypodermically.—B.M.J. i./81,239.

Antagonism of caffeine, coffee, tea, &c., to morphine.—B.M.J. ii./74,615,674,679,771.

Picrotoxin an antidote.—L. i./80,497. P.J. 1889,703.

Opium and morphine may poison infants through the mother's milk; see a case in B.M.J. ii./85,1159.

Morphine poisoning treated successfully by nitroglycerin.—B.M.J.E. ii./90,77. And by inhalation of oxygen.—B.M.J.E. ii./91,37. Permanganate of potassium an antidote to morphine and opium poisoning.—Pr. liii.43,122; B.M.J. i./94,649; M.C. Nov./94,123.

**Dionin,** Ethyl-Morphine Hydrochloride.

*Dose.*—$\frac{1}{4}$ to $\frac{1}{2}$ grain (0·016 to 0·032 Gm.).

A white crystalline powder freely soluble in water and alcohol. Recommended to replace codeine and morphine in bronchitis, pulmonary emphysema, and bronchial asthma.—B. & C.D. i./99,217; B.M.J. i./99,675.

Introduced for the treatment of morphine habit. Produces no euphoria and consequently can be discontinued easily.—B.M.J.E. i./99,83; P.J. i./99,532d.

**Heroin.** Diacetyl-Morphine Hydrochloride.

*Dose.*—$\frac{1}{12}$ to $\frac{1}{6}$ grain (0·0054 to 0·01 Gm.) twice or thrice daily.

In white crystalline powder, soluble in water. Is ncompatible with alkalies, *e.g.* Ammonium Carbonate, Sodium Bicarbonate. Possesses in a greater degree he properties of codeine. Phthisical patients especially ave been greatly benefited by it. The base **Heroin** is arely used.—B.M.J.E. ii./98,63,92; L. i./99,1235.

A general analgesic, relieves coughs and eases breathng.—B.M.J. i./99,675; B.M.J.E. ii./99,87.

Checks irritable cough without narcotism.—B.M.J.E. /99,59; L.i./00, 180. For bronchitis.—B.M.J.E.i./01,8.

Unfavourable report as a codeine substitute.—P.J. i./99,65.

Useful in hay fever and acute coryza.—Therap. 1900,56. The larger doses originally suggested are disused, and but $\frac{1}{24}$ to $\frac{1}{12}$ for adults, $\frac{1}{120}$ to $\frac{1}{60}$ for children are given. Also used hypodermically.—Therap. 1901,12.

**Heroin** behaves like Morphine Salts; its acqueous Solution is precipitated by excess of ammonia, but is re-dissolved by potash in excess—the reverse of Codeine Salts. **Dionin** is soluble in excess of both these reagents, but crystals soon deposit from each of the solutions. **Peronin**, which is not so readily soluble in water, gives precipitates with both reagents in excess.

**Peronin.** Benzoyl-Morphine Hydrochloride.

*Dose.*—$\frac{1}{8}$ to $\frac{1}{2}$ grain (0·008 to 0·032 Gm.).

A whitish powder, soluble in water; is a mild sedative and analgesic, recommended in asthma, phthisis, rheumatism, and neuralgia.—P.J. i./97,217.

For cough, resembles codeine.—B.M.J.E. ii./98,43.

A 5 per cent. solution causes deep anæsthesia when applied to the eyes.—B.M.J.E. ii./00,71; B.M.J. i./99,675.

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**Muscarinæ Nitrate**, *v.p.* 482.

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## MYRICIN.

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.), in a pill with glycerin of tragacanth.

The powdered extractive obtained from the bark of stem and root of bayberry, *Myrica cerifera.* Is astringent and stimulant, in large doses emetic—used in diarrhœa and jaundice. Is an intestinal irritant.—B.M.J. Rep. 1878,4; B.M.J. i./79,177.

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## NAPHTHOL.

**Beta-Naphthol.** (*Off.*). P.G. iv.—NAPHTOL U.S.; BETA-MONO-HYDROXY-NAPHTHALENE.

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.) in cachet.

A coal-tar derivative with a faint storax odour; when sublimed, in white shining laminar crystals; very soluble in alcohol, ether, chloroform, and benzol, sparingly soluble in hot water, but soluble 1 in 8 of olive oil and lard, and 1 in 80 of vaseline. Addition of boric acid increases solubility in water. Has the advantage in skin diseases generally of being odourless and colourless. It is a powerful antiseptic and germicide. In advanced scabies, an ointment of 10 to 15 per cent. cures the eczema as well as destroys the parasite, but the **Compound Ointment** is preferred:—Naphthol 15, lard 100, green soap 50, prepared chalk 10. Useful also in psoriasis.—B.M.J. ii./81,612; B.M.J. i./82,47,156.

Naphthol 5, alcohol 100, glycerin 10, is a remedy for hyperidrosis of palms, soles, and axillæ.—Pr. xxxi.219.

Internally, useful in enteric fever; safe and efficient, but sometimes causes too much gastric disturbance.—Pr. xli.421; P.J. 1888,507; Th. Gaz. 1889,702.

Recommended in cholera, as preventive, and in treatment of early stages.—B.M.J.E. i./93,67.

Successful use as a vermifuge; 4 grains three times a day.—L. i./93,377.

A valuable antiseptic; useful in gastric disorders and diarrhœa of typhoid. Inhalations of service in pharyngitis, catarrh, and bronchitis.—Th.Gaz. 1889, 669; L. i./90,1407. Internally as an antiseptic in cases of dilated stomach.—L. ii./94,381.

Experiments on intestinal asepsis.—B.M.J. ii./95,1483.

*α*-**Naphthol** is recommended as a powerful antiseptic, and as possessing only one-third the poisonous action of the *β*-Naphthol.

Is said to have three times the antiseptic power of *β*-Napthol. With castor oil is specially adapted for use in intestinal troubles.

Is more irritant than *β*-Naphthol, but more soluble, more active, and less toxic. Five grains in a quart of water used to wash the intestines.—Th.Gaz. 1891,654.

An intestinal antiseptic, in pills.—B.M.J. ii./92,167.

**Alphol.** It is isomeric with Betol, *v.p.*341.

*Dose.*—8 to 30 grains (0·52 to 2 Gm.), in cachet.

Salicylic ether of *α*-naphthol, in whitish powder, insoluble in water, soluble in alcohol. Resembles betol and salol in effects on articular rheumatism and cystitis, and as an intestinal antiseptic, breaking up into salicylic acid and *α*-naphthol.—P.J. 1894,815.

**Benzonaphthol.**—*Syn.* Benzoyl-Naphthol.

*Dose.*—4 to 10 grains (0·26 to 0·65 Gm.), in cachet or suspended in mixture. A white crystalline powder, tasteless, and with slight odour, obtained by the action of benzoyl chloride on *β*-naphthol. Soluble in alcohol and chloroform, nearly insoluble in water and ether. Is a powerful intestinal antiseptic and diuretic, being broken up into β-naphthol, which remains in the intestines, and benzoic acid, which is eliminated by the kidneys. Should be given in small quantities, frequently repeated.—P.J. 1891,426; Pr. xlvii.412; B.M.J.E. ii./91,150; Th.Gaz. 1892,55.

An antiseptic astringent, valuable in typhoid and for preventing fermentative changes in stomach, causing acid dyspepsia.—L. i./93,44; Pr. li.213; B.M.J.E. ii./92,21.

May usefully be combined with bismuth salicylate.

**Asaprol.** *Syn.*—**Abrastol.**

*Dose.*—10 to 30 grains (0·65 to 2 Gm.). A calcium salt of β-naphthol-sulphonic acid; a whitish powder freely soluble in water and alcohol; incompatible with most alkaline and alkaloidal salts, potassium iodide, and antipyrine. Resembles sodium salicylate as an antipyretic and antiseptic; especially useful in acute articular rheumatism, often taken when the salicylate cannot be borne, and given for influenza with high temperature, gout, asthma, and anthrax.—P.J. 1893,84; B.M.J.E. ii./92,83.

Very useful for children.—P.J. 1895,1166.

Asaprol precipitates albumin, peptone, &c., from acid solution; on boiling, peptone and albumose redissolve, albumin remains.—P.J. i./95,960; i./96,81; ii./97,1.

**Epicarin.**—*Syn.* **Epicarinum purum.**

A condensation product of β-Naphthol and Cresolic Acid, used as a dermatological remedy for psoriasis, eczema and scabies, in a 10 or 20 per cent. Ointment. For dogs, a 10 per cent. solution in Methylated Spirit, with 10 per cent. of Castor Oil, is effective for mange applied every fifth day.

Scabies and prurigo in children, Epicarin 7, Prepared Chalk 2, Vaseline 30, Lanoline 15, Lard 45, as an ointment, 5 or 6 applications successful.—P.J. ii./00, 577; i./01,36.

**Microcidine.**

A whitish powder, prepared by fusing β-naphthol with caustic soda; contains 75 per cent. of sodium naphtholate, and 25 per cent. of mixed naphthol and phenol compounds. Is a powerful antiseptic, non-poisonous. Soluble 1 in 3 of water; solution 1 in 200 or 300 recommended for lotions and dressings.—P.J. 1891, 1067; B.M.J.E. i./91,167; ii./93,72.

**Naphthol cum Camphora. Naphthol Camphor.** $\beta$-Naphthol 1, Camphor 2, mix to form a viscid liquid, miscible with oils. It is a powerful non-toxic antiseptic for wounds, and is said to clean off the false membrane in diphtheria. A weaker preparation has been used with success as an interstitial injection in phthisis. Recommended to smear over and protect surgical instruments.—B.M.J. ii./89,791; P.J. 1888,247; 1889,62; Th.Gaz. 1888,841; 1889,674; C. & D. i./89,654.

Improvement in 32 cases of tuberculous adenitis, also in three of tuberculosis of testis, treated by interstitial injections of camphorated naphthol.—B.M.J.E. ii./91, 125.

Four cases of phthisis treated by intrapulmonary injection. Three successful.—M.C. May, 1890,129.

**Hydronaphthol.**

A specialty in greyish-white crystalline powder, with a slight iodine odour, of indefinite composition. When purified by crystallization, a substance corresponding to $\beta$-naphthol is obtained. It is recommended as a non-poisonous antiseptic in solution or dusting powder, and wool, gauze, and lint impregnated with it are also prepared as surgical dressings. Experiments as to its antiseptic value.—B.M.J. i./89,1047. Use of hydronaphthol plaster and jelly in tinea tonsurans.—L. ii./89,1110.

**Betol.**—*Syn.* **Naphthalol.**

*Dose.*—3 to 8 grains (0·2 to 0·52 Gm.) in cachets or pills, or suspended in almond emulsion or milk.

The salicylate of $\beta$-Naphthol-ether. Is in small tasteless and odourless, brilliant white crystals, insoluble in water, soluble in alcohol. Useful in rheumatism, cystitis, and intestinal catarrh.—Th.Gaz. 1887,774.

**Bougies** of Betol 1 part, cacao butter 4 parts, have proved useful in gonorrhœa.

Cachets containing 5 grains, with 5 grains of bismuth salicylate, useful as an intestinal disinfectant. Is contraindicated in cases associated with renal disease.

**Naphthalene.**—*Syn.* **Naphthalinum, P.G. iv.** *Dose.*—2 to 15 grains (0·13 to 1 Gm.) or more in cachets, or pills with mucilage.

A hydrocarbon formed in large quantities in the manufacture of coal gas. It is when pure in shining white rhomboid crystalline plates, with persistent, but little tarry odour; it is insoluble in water, acidulated or alkaline, but is soluble in ether, hot alcohol, and in fats, fixed and volatile oils. May be given in malt extract.

**Pilula Naphthalini**, 3 grains.

Moulded into blocks or sticks, it is sold under various trade names, such as Alabastrine, for preventing moths; Camphylene, for disinfecting urinals and stables; and Albo-carbon, for increasing the luminosity of gas.

**Naphthalene Tetrachloride.**—*Syn.* Naphthalin Hydrochloride. *Dose.*—3 to 12 grains (0·2 to 0·8 Gm.), in cachets or pills. In odourless and colourless rhombohedral crystals, melting at 182° C., insoluble in water.

*α*-**Dichloronaphthalene,** in small granular crystals, is obtained by the action of alcoholic potash on the above. Melts at 35° C.

As Naphthalene is not absorbed by the system it acts only on the mucous membrane of the bowels. It forms a valuable remedy in dysentery, catarrhal, typhoid, and phthisical diarrhœa.—Ed. M.J. April, 1888,952; L. ii./87,777; ii./88,1252; ii./89,659. 8-grain enemata useful.—L. i./88,1327.

Is painless in action, and promotes healing of ulcers.—B.M.J. i./86,217.

Given internally with success to lessen fœtor of urine and stools.—L. ii./86,744; ii./87,605.

Used as a vermifuge in tænia and ascarides.—L. ii./86,462; ii./91,141,1410; Ed. M.J. 1891,473; B.M.J.E. i./95,88; P.J. i./96,307.

Used in antiseptic dressings with success as an alternative to iodoform.—B.M.J. ii./82,1051.

A 10 to 20 per cent. solution in oil is successful as a parasiticide in scabies, but does not relieve the secondary eruptions.—L. ii./82,909.

Naphthalene of great temporary value in infantile diarrhœa and fetid urine.—L. ii./89,720,766.

Of service in typhoid, reduced temperature and checked diarrhœa.—B.M.J.E. i./91,189.

Useful intestinal antiseptic in enteric fever. B.M.J. ii./92,167.

Vapour inhaled for whooping-cough useful.—L. ii./91, 1180; B.M.J.E. ii./91,189; i./92,3; M.C. Jan. 1892, 255.

## NARCEINA.

### Narceine.

*Dose.*—⅛ to ½ or 1 grain (0·008 to 0·065 Gm.), in a pill.

An alkaloid obtained from opium in light white, flexible silky crystals. Has a slightly bitter taste—is a weak base, soluble 1 in 400 of water, very soluble in alcohol, insoluble in ether. It is a soporific, produces no constipation, less headache and perspiration than morphine.—R.

Hypnotic use of, and to check cough of pertussis.—B.F.M. Ch.R. ii./66,526; Th.Gaz. 1888,359.

Causes sleep rather than allays pain, used as a sedative in violent cough.—B.F.M. Ch.R. i./67,527.

Is a pure but feeble narcotic, 5 grains or more are required to produce slight tendency to sleep.—Pr. i./68, 289; P.J. 1887,882.

Tests for purity of.—P.J. 1889,1035,335,401.

**Antispasmin.**

*Dose.*—⅙ to 1½ grains (0·01 to 0·1 Gm.).

A compound of sodium-narceine with sodium salicylate, in whitish powder, readily soluble in water. Containing about 50 per cent. of narceine in a soluble form is recommended as an hypnotic and sedative, specially adapted for painful spasmodic affections, and for children n whooping-cough.—P.J.1893,606.

## NARCOTINA.

### Narcotine.—*Syn.* ANARCOTINE.

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.) or more n a pill with glycerin of tragacanth.

An alkaloid obtained from opium, in white inodorous rystalline prisms. It is a very weak base, insoluble in water, soluble 1 in 3 of chloroform, 1 in 100 of 90 per ent. alcohol, 1 in 125 of ether, soluble also in benzol.

Possesses antiperiodic properties, like quinine, some considering it superior, in doses of 1 to 3 grains.—R. L. i./62,53. 8-grain doses no narcotic effect.—Rank. ii./72,125.

Physiological investigation; narcotine resembles morphine in action, but much weaker; while **Thebaine** more closely resembles strychnine than morphine. The nucleus of the molecule is probably the same in both, as well as in their derivatives, methyl-thebaine and cotarnine.—B.M.J. i./91,157.

**Cotarnine Hydrochloride.** *Syn.* Stypticin.

*Dose.*—$\frac{1}{4}$ to $\frac{1}{2}$ grain (0·016 to 0·032 Gm.) internally or hypodermically.

The salt of an opium base in primrose-coloured granular crystals, very soluble in water and alcohol. Is allied to Hydrastinine (*v.p.* 275), being Methoxyl-Hydrastinine. Recommended in all forms of uterine hæmorrhage.—P.J. ii./95,471; B.M.J.E. i./96,7; i./98,27,71; ii./98,104.

**Tablets, $\frac{3}{4}$ grain (0·05 Gm.).**

# NICOTINA.

## Nicotine.

*Dose.*—$\frac{1}{6}$ to 1 grain (0·01 to 0·065 Gm.).

A colourless volatile liquid alkaloid, obtained from tobacco—*Nicotiana Tabacum.* Darkens with age, has a strong, disagreeable odour, soluble in water, more so in alcohol and ether.

Tetanizes the heart, has been highly praised for tetanus. Many recorded cases appear to show its usefulness in this disease.—R.

Physiological effects.—B.F.M.Ch.Rev. i./56,243.

Is an antidote to strychnine.—Rank. ii./65,225.

Bad effects of smoking due not only to Nicotine but to carbon monoxide, pyridine and a volatile oil containing a phenol.—P.J. i./01,459, *ex* Schweiz. Woch., 39, 27.

**Nicotinæ Tartras.** *Dose.*—?

In white granular crystals, very soluble in water.

**Nicotine Salicylate.** Eudermol.

In yellowish-white granular crystals, freely soluble in water; 1 per cent. in ointment of lard, soft paraffin, olive oil, or traumaticin effective in treatment of sycosis. Scabies cured by 6 applications. Inodorous, does not soil linen.—P.J. i./00,227; B.M.J.E. ii./00,47.

**X.L. All Vaporizer.** Is a mixture containing Nicotine, Camphor and Alcohol. Vaporized is effective as an insecticide for plants. A solid 'X.L. All Vaporizing Compound' is also sold.

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## NITROGLYCERINUM.

**Nitroglycerin.**—*Syn.* TRINITROGLYCERIN; GLONOIN; TRINITRIN.

*Dose.*—$\frac{1}{200}$ to $\frac{1}{50}$ grain (0·00032 to 0·0013 Gm.) increased to $\frac{1}{10}$ grain.

This dangerous explosive substance proves to be of great medicinal use, especially in angina pectoris. It is a dense, opaque, white, oily liquid, transparent and colourless when dehydrated, and of Sp. Gr. 1·600. It drops in very small drops. It has no odour, is slightly volatile, and has a sweet, aromatic, and pungent taste. It is slightly soluble in water, freely soluble in ether, 1 in 6 of almond oil, freely soluble in absolute alcohol, and 1 in 15 of 90 per cent. alcohol. Nitroglycerin, especially if not perfectly pure, is liable to explode spontaneously, but in fatty or oily solution it is perfectly safe and stable.

Nitroglycerin, in two minutes after taking a dose, accelerates the pulse, relaxes the arteries, produces a feeling of fulness all over the body, but particularly in the head by a throbbing at the sides of the temples. It also causes headache, which lasts from 15 minutes to several hours, according to the quantity taken; but to patients accustomed to its use the headache is not felt. In treating angina pectoris, neuralgia, asthma, headache, sea-sickness, and Bright's disease, its action is like that of amyl nitrite, but its effects last much longer. For the weak heart of fatty degeneration and of old persons, this lessened tension proves valuable.

Nitroglycerin acts more powerfully than other nitrites, probably because the whole of it is absorbed without decomposition, and because the nitrous acid is thus set free in the blood itself.—Brunton.

### Injectio Nitroglycerini Hypodermica.

*Dose.*—1 to 4 minims (0·06 to 0·24 Cc.).

Nitroglycerin Solution (*v.p.* 346) 5, Alcohol (90 per cent.) 2, Distilled Water to 12.

Contains about $\frac{1}{240}$ grain in 1 minim. Acts promptly; useful in collapse, &c., when the patient cannot swallow.

Successful in morphine poisoning.—B.M.J.E.ii./90,77.

**Liquor Nitroglycerini,** 1 per cent. **Solution of Nitroglycerin.** *Made official as*

**Liquor Trinitrini** (*Off.*). **Solution of Trinitrin.** *Syn.* LIQUOR NITROGLYCERINI, SOLUTION OF NITROGLYCERIN, LIQUOR GLONOINI, SOLUTION OF GLONOIN.

*Dose.*—½ to 2 minims (**0·03 to 0·12 Cc.**) gradually increased to 10 minims, if necessary, every 3 or 4 hours, in any aqueous vehicle.

Trinitroglycerin ... ... 1 part by weight.
Alcohol (90 per cent.) *q.s.* to 100 fluid parts.

Dissolve. Sp. Gr. 0·840. 110 minims contain 1 grain. A colourless neutral liquid; 10 Cc. with an equal volume of water keeps clear, but the further admixture of 1 Cc. of water causes opacity (presence of full proportion of trinitroglycerin). Diluted further, the latter separates in oily drops, which explode when struck with a hammer. Should be kept from sunlight. A five and a ten per cent. solution in absolute alcohol are also prepared commercially, but are not safe for use in dispensing. (**Spiritus Glonoini, U.S.**, has 1 per cent. by weight.)

**Haustus Nitroglycerini vel Trinitrini.** Vict. Park. *Dose.*—½ to 1 ounce.

Solution of Trinitrin 1 minim, Spirit of Chloroform 15 minims, Compound Tincture of Cardamoms 20 minims, Water to 1 ounce.

**Oleum Nitroglycerini,** 1 per cent. in almond oil.

*Dose.*—1 to 2 drops or more on sugar. Recommended as being more stable than the alcoholic solution.

**Pilula Nitroglycerini.**

Is made with a theobroma-oil basis to contain $\frac{1}{100}$ to $\frac{1}{50}$ grain or more.

**Tabellæ Nitroglycerini, Nitroglycerin Tablets, B.P.** 1885. *Syn.* TABELLÆ GLONOINI, TROCHISCI NITROGLYCERINI.

Introduced by the writer in 1878, $\frac{1}{100}$ grain in each. These tablets have the nitroglycerin in solution in chocolate, 2½ grains, in a perfectly safe and inexplosive, stable and non-volatile, portable and palatable form. The small bulk, precise dose, and quick action, if well munched and swallowed, render this mode preferable for administering nitroglycerin. *Dose.*—1 or 2.

**Tabellæ Trinitrini, Trinitrin Tablets** (*Off.*)

Tablets of chocolate, each weighing 5 grains (0·324 Gm.), and containing $\frac{1}{100}$ grain (0·00065 Gm.) of Trinitroglycerin.

These *Official* tablets are now double the weight of those in B.P. 1885, and as first manufactured by the writer. This dilution diminishes their value as a remedy of prompt action. *Dose.*—1 or 2.

One tablet every three or four hours to relieve or ward off attacks of angina pectoris, sea-sickness, neuralgia, Bright's disease, headache, &c. A tablet should be eaten and quickly swallowed when an attack of angina threatens; for this their use is preferable to the pills, which require a few minutes to dissolve, or to the solution, which must be measured, and the strength of which is liable to be uncertain and variable through evaporation. A dose of any preparation of nitroglycerin acts more promptly if taken on an empty stomach.

The tablets are also prepared containing $\frac{1}{75}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain, and 1 milligramme respectively, for those accustomed to their use, as well as $\frac{1}{200}$, $\frac{1}{400}$, and $\frac{1}{600}$ grain in each, for administration to ladies, delicate persons and children, for whom this is a sufficient dose to ward off sea-sickness. The tablets appear to be non-poisonous even to children; a surgeon informed the writer that on one occasion two children, one three and the other six years of age, ate between them straight away two dozen, $\frac{1}{100}$ grain in each, without any injurious effects.

A patient took a hundred of these tablets daily with great benefit.—R.

In a case of angina pectoris in which they were prescribed the relief afforded was most marked. . . . . They are certainly active; whilst they are agreeable to the aste.—B.M.J. i./79,899.

Fifty per cent. of cases of sea-sickness are benefited by the nitroglycerin tablets.—B.M.J. ii./80,512,691; . 93,596.

The best method of administration is in the form of ozenges. They should be taken when the patient is hreatened with an attack of asthma; or, if the attacks occur in the night, at bedtime, or whenever the patient wakes.—B.M.J. ii./81,424,543.

**Tabellæ Nitroglycerini Compositæ, Westminster Hospital Pharm.**

Contain Nitroglycerin $\frac{1}{100}$ grain, Amyl Nitrite $\frac{1}{4}$ grain, Menthol $\frac{1}{50}$ grain, Capsicum $\frac{1}{100}$ grain.

Cases of angina pectoris treated with success in doses of one minim of 1 per cent. solution of nitroglycerin, upwards to, in one case, 10 minims every 3 or 4 hours, or as attacks required it.—L. i./79,80,115,151,225.

Bright's disease, acute and chronic, and in vascular tension of the aged, the 1 per cent. solution in dose of 1 to 3 minims was successful.—B.M.J. ii./80,803.

Myxœdema, case of, treated successfully with $\frac{1}{50}$ grain doses of nitroglycerin in conjunction with elaterium purgings.—L. i./82,440.

Puerperal convulsions, $\frac{1}{100}$ grain every hour arrested in 4 or 5 doses.—B.M.J. i./82,573.

In epileptic vertigo, 1 to 2 minim doses of 1 per cent. solution quite relieved.—Pr. xxx.105.

In migraine, due to anæmia, a minim of 1 per cent. solution repeated every half-hour, if desirable, useful also in epilepsy, especially in cases of *petit mal* given in conjunction with bromides.—New York Med. Jour. Dec. 1882,662.

In a case of angina pectoris, the effect of 1 per cent. solution in 1 to 3 minim doses compared with that of nitrite of sodium.—Pr. xxx.179,321; xlvi.253.

In uræmic asthma, $\frac{1}{100}$ grain doses thrice daily, was useful.—B.M.J. i./83,811.

On account of its stimulating effect on the heart and blood vessels, is recommended as a substitute for alcohol where brandy is indicated; dose is small and tasteless, and its action is almost immediate. Useful in collapse from chloroform, or typhoid and other fevers, shocks from accidents, and nausea and faintness from surgical operations.—L. ii./85,257. Further therapeutic researches. Strychnine, ergot, and belladonna recommended as antidotes.—L. i./89,1238,1297.

In nephritis, it increases the amount of urine, whilst lessening the amount of albumen.—Pr. xxxiv.67; L. ii./85,733; Th. Gaz. 1888, May, 355.

Asthmatic fits, found to give more relief than any other drug, even in cases of weak heart.—M.P.C. i./

86,6. Solution 1 drop every 5 minutes.—Ed.M.J. 1890,552; Westminster Hosp. Rep., vol. vi. p. 47.

Its administration relieves morphine craving.—L. i./87,1278; i./90,1334.

Case of apparent death, woman resuscitated by ten drops of hypodermic solution.—P.J. 1886,509; M.P.C. 1887,36.

In epilepsy the frequency of attacks is lessened by its use.—Th. Gaz. 1888,257; Pr. xl.466. Twelve cases, paroxysm immediately relieved. — L. ii./93,453; B.M.J.E. ii./93,32.

Paroxysmal headaches much improved and made less frequent.—L. ii./87,1135; i./88,1195 (tablets used).

In dyspnœa is preferred to other nitrites.—Intern. Jour. Med. Sci. Oct. 1887,393; Feb. 1888,122.

In tinnitus aurium, doses of $\frac{1}{100}$ grain found useful.—Pr. xl.232.

Poisoning by eating two 'bobbins' of dynamite which would be about 4 inches long by $\frac{3}{4}$ inch diameter.—L. ii./88,1102.

Nitroglycerin the most reliable agent in angina, more especially graver cardiac cases.—Pr. xlvi.253; M.C. May, 1891,132; L. i./90,240; B.M.J. ii./91,982.

The best treatment for angina;—one tablet taken before walking prevented attacks and enabled patient to walk comfortably; a remarkable improvement in health.—L. i.92,519.

Nitroglycerin has the advantage over amyl nitrite that it can be more readily used to keep up a steady diminution in blood pressure—chocolate tablets the best method—one to be broken up small and a piece taken every 10 or 15 minutes. Thus the action is never very great, but is constant.—Pr. xlvii.259.

Sciatica improved.—L. i./93,1331.

Often of service in collapse of cholera.—L. ii./93,688.

Nitroglycerin the best of the official nitrites. The ablets or solution should be kept immediately at hand y angina patients. Useful in dyspnœa with weak dilated eart. Worthy of a trial in dysmenorrhœa.—Croonian Lectures; L. ii./93,123,177; B.M.J. i./93,1305; ii./93, ,56,108,169.

Sciatica, obstinate cases cured by 5 to 10 drops, 3 imes a day, of Solution of Nitroglycerin 1, Tincture f Capsicum 3, Peppermint Water 6.—Pr. lvi.221.

Gallstone colic immediately relieved by Nitroglycerin tablets.—L. i./96,353.

Dose in tablets may in exceptional circumstances be increased to $\frac{1}{4}$ grain with safety and advantage.—L.ii./96,634.

Nitrites generally, but especially Nitroglycerin, of service in angina. Solution 1 minim may be injected with ether in very acute cases. Effect of digitalis may be moderated by combining with nitroglycerin.—L. i./98,837; B.M.J. i./98,807.

In acute nephritis valuable.—B.M.J. ii. 98.1047.

Useful in sciatica and neuralgia in 5 to 10 drop doses of Nitroglycerine Solution (1 per cent) 5, Tincture of Capsicum 7·5, Peppermint Water 15. — Ephemeris iv., 1720.

Use in various forms of cardiac pain.—L. ii. 99.1249.

Senile restlessness completely relieved by $\frac{1}{100}$ grain tablets, or by erythrol nitrate tablets—B.M.J. ii./99,1542.

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## NUX VOMICA.

### Nux Vomica (*Off.*).

*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.) in powder.

The dried ripe seeds of *Strychnos Nux-vomica.*

**Extractum Nucis Vomicæ** (*Off.*).

*Dose.*—$\frac{1}{4}$ to 1 grain (0·016 to 0·065 Gm.) (but often less).

Is prepared from the liquid extract by distilling off the alcohol and adjusting the strength by the addition of milk sugar so that it contains 5 per cent. of strychnine.

**Extractum Nucis Vomicæ Liquidum** (*Off.*).

*Dose.*—1 to 3 minims (0·03 to 0·18 Cc.).

Prepared by percolating the seeds in No. 20 powder with Alcohol (70 per cent.), and adjusting the strength so that the extract contains 1·5 per cent. of Strychnine.

**Tinctura Nucis Vomicæ.** (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.) (or often less).

Liquid Extract of Nux Vomica 2, Distilled Water 3, Alcohol (90 per cent.) *q.s.* to 12.

This contains not less than 0·24 or more than 0·26 per cent. of strychnine.

One ounce contains about one grain, or about double the quantity contained in the Tincture of B.P. 1885.

**Tinctura Ignatiæ.**

*Dose.*—3 to 20 minims (0·18 to 1·2 Cc.).

From St. Ignatius' Beans, the seeds of *Strychnos Ignatii* (allied to Nux Vomica), 1 part, and a mixture of 90 per cent. alcohol 3 and water 1, *q.s.* to produce 10 parts. A stronger preparation is known as **Gouttes Amères de Baumé** (Codex), 1 in 2. *Dose.*—1 to 8 minims (0·06 to 0·48 Cc.)

**Strychnina,** *v.p.*445. **Brucina,** *v.p.*111.

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# OLEATA.

## Oleated Preparations.

**Acidum Oleicum, Oleic Acid** (*Off.*).

A pale-sherry-coloured oily liquid (at ordinary temperatures) with a slight odour, is faintly acid, insoluble in water but is dissolved readily by 90 per cent. alcohol, ether, chloroform, benzol, and fixed oils; it dissolves most metallic oxides, thus forming indefinite oleic solutions of oleates in an excess of Oleic Acid; such combinations of bismuth, copper, lead, mercury, and zinc are used medicinally; they are soluble in oils, fats, and petroleum ointments. Those of mercury and zinc are most in request; the former is now officially made by double the decomposition of Mercuric Chloride, and the latter of Zinc Sulphate with Hard Soap, forming incorrectly called 'true' oleates, which are less satisfactory than those made by the direct combination with the oxides. Oleic Acid also dissolves alkaloids, but not their alts, *e.g.* Oleate of Aconitine (see Aconitina, *p.*46), Oleate f Atropine (see Atropina, *p.* 90), Oleate of Morphine (see Morphina, *p.*332), and Oleate of Veratrine (see Veratrina, *p.*467), are used medicinally. One part of Quinine (alkaoid) is dissolved by 3 of Oleic Acid forming **Oleatum Quininæ,** which is applied externally and is readily bsorbed, and 8 grains (= 2 grains of Quinine) added o one ounce of cod liver oil forms Oleum Morrhuæ cum Quinina. Oleic Acid, although a derivative of oils, is much more readily absorbed by the skin than oils. t also aids the absorption of drugs with which it is ombined.

Résumé of the use of the oleates and their preparation.—B.M.J. ii./84,749.

**Oleanodyne.**

A special preparation combining the alkaloids aconitine, atropine, morphine, and veratrine, with oleic acid. It is rapidly absorbed, and forms a strong anodyne liniment, which can be diluted with chloroform, alcohol, or oils. It is not so compatible with compound camphor or soap liniment.

**Aluminii Oleas** and **Bismuthi Oleas**, P.J. i./01,392.

**Cupri Oleas**, Copper Oleate.

Is best prepared by the double decomposition of a hot solution of copper sulphate, 3 in 8 of water, added to a hot solution of Castile soap 8 in 32, washing and drying the pasty precipitate. When cold it is in solid dark-green masses. It is in reality an oleo-palmitate of copper; may be employed as a plaster for warts and corns.

Unguentum Cupri Oleatis. U.C.H.

Copper Oleate 1, Lard 7. Melt together. May be made by using vaseline as the basis, and for some purposes it may be employed half the above strength.

Is specially useful in ringworm—lightly rubbed in night and morning,—for indolent ulcers, warts and corns, and is recommended for removing freckles.—M.R. 1882,449; P.J. 1882,303; L. i./83,250; Edin.Med. Jour. 1884,566.

**Hydrargyri Oleas**, Mercuric Oleate (*Off.*).

Hard Soap, in powder, 16, Oleic Acid 1. Mix, dissolve in boiling Distilled Water 88, and add Mercuric Chloride 8, dissolved in boiling Distilled Water 80. Boil the mixture for 10 minutes, decant, and wash the deposited mercuric oleate with hot distilled water until free from chlorides. Dry it on a water-bath. Is indefinite, being an oleo-palmitate of mercury.—P.J.i./01,392.

Unguentum Hydrargyri Oleatis (*Off.*).

Mercuric Oleate 1, Benzoated Lard 3.

**Hydrargyri Stearas**, Mercuric Stearate.

A stiff white unctuous paste formed by the interaction of mercuric chloride and curd soap. Its other properties resemble those of the official mercuric oleate.

**Emplastrum Hydrargyri Stearatis.**

Lead Plaster 6, melt and add Mercuric Stearate 2. Is a useful substitute for mercurial plaster, and for strapping up joints requiring the constant application of Oleate of Mercury.

**Oleatum Hydrargyri, B.P.** 1885. 10 per cent.

Yellow Mercuric Oxide 1, Oleic Acid 9. Into the acid, kept agitated in a mortar, sprinkle the oxide gradually, and stir frequently during 24 hours, until the latter is all dissolved and a light brown unctuous jelly is formed.

**Oleatum Hydrargyri** (10 per cent.) **cum Morphina.**

Pure morphine, 1, is dissolved in 60 of the above. Linimentum Hydrargyri Oleatis cum Morphina, R.O.H. is similar.

**Oleatum Hydrargyri,** 5 per cent. (liquid), and 20 per cent. U.S. (unctuous).

Are prepared respectively with one-half and twice as much oxide as the 10 per cent., and when ordered with morphine 1 part is added to 60 parts of the oleate when dispensed. These preparations do not keep well with the morphine in combination. The 10 per cent. s always dispensed unless one of the others is specially ordered. These oleates should be applied with a brush, or ightly spread over the part with the finger, and covered with a linen rag or silk handkerchief; otherwise, if used with much friction, they may cause some cutaneous irritation. The addition of morphine is indicated where there is pain in the part, or the simple oleate itself causes much pain. The case and the age of the patient will ndicate which strength of oleate should be used. As a rule, according to the size of the part affected, 10 to 30 drops, or a piece from the size of a bean to a nut, should be rubbed in twice a day for 4 or 5 days, then at night only, afterwards every other day till cured. The application does not salivate unless used in excessive quantity. n persistent inflammation, especially of glands, and oints (such as synovitis), and in non-ulcerated yphiloderma, the Oleates of Mercury are much more ctive, definite, and cleanly, than the mercurial ointment, which is dirty and uncertain.—L. i./72,709; i./93,1059.

In syphilitic affections it is most serviceable, being a certain and less disagreeable cutaneous application than ointments, and really hastens the subsidence of papules and other disfigurements of exposed parts of the skin; it also a very effective parasiticide in pediculi.—Pr. x.204

Cases of ringworm, one on scalp, cured by 10 per cent. Oleate. It is a certain, painless remedy, produces no stain, and it destroys the fungus, as it readily permeates the sebaceous glands, hair follicles, and even the hairs themselves. Its penetrating power may be increased by adding one-eighth of ether.— L. ii./73,227.

Ringworm of scalp—the most inveterate cases which had existed for years cured by Oleate of Mercury, 5 per cent. for under 8 years, 10 per cent. for over that age; one-seventh of acetic ether added to it, increases its penetrating power, causes little pain.—L. i./80,126.

Alopecia areata, also found useful in.

## Oleatum Plumbi.

Lead Plaster, B.P., is a crude Oleate of Lead, made by the combination of olive oil (oleate and palmitate of glyceryl) and oxide of lead heated together in the presence of water. Thus made, the oleate possesses more adhesiveness than when prepared by the oleic acid solution of the oxide.

The following ointment was largely prescribed by the Viennese skin physician, Hebra, as a remedy for eczema, excessive perspiration of the feet, &c. It is in reality an oleate of lead ointment.

## Unguentum Diachyli. P. Aus. Add.

Lead Oxide, in fine powder, 25, Olive Oil 50, Lard 50. Boil together, sprinkling in water at intervals until the oxide is saponified and the water evaporated. When cold, add Oil of Lavender 2.

## Unguentum Diachyli (original formula).

Olive Oil 60 parts, Boiling Water 128 parts; heat, and add gradually, Litharge in powder 15 parts. Continue the heat, adding more water if necessary, and stir constantly till combined, and until cold. Then add Oil of Lavender 1 part. In cold weather an extra ounce of oil should be allowed for every pound of ointment. It should be rubbed in 1 to 3 times a day, or spread on linen and applied as a plaster. Modified as

**Unguentum Plumbi Oleatis, U.C.H., Unguentum diachylon, P.G.iv.**

Lead Plaster, Olive Oil, equal parts (by weight), elted together.

**Unguentum Diachyli, B.S.H.**

Lead Plaster 1, Vaseline (Soft Paraffin, yellow, G.H.) 1. Melt together and stir till cold. Made thus, the oint- ent keeps well, and does not acquire a disagreeable odour. aposi (son-in-law of Hebra) has adopted this, when erfumed with oil of bergamot, as *Unguentum Vaselini lumbicum*.—Pr. xxii.124, Br. i./79.lix.

With the addition of 2 per cent. of phenol this oint- ent forms *Unguentum Diachyli Carbolisatum* (Lassar).

**leatum Zinci. B.P.** 1885.

Zinc Oxide 1, Oleic Acid 9. Mix and heat together ll combined. Diluted with an equal quantity of Soft araffin, this formed **Unguentum Zinci Oleati** B.P. 1885).

**hartazinc.**

Tissue paper impregnated with zinc oleate; this astens the healing process and is a healthy stimulant to ronic ulcers, especially those of long standing, and rge sores left after burns.—B.M.J. ii./78,691.

**nguentum Zinci Oleatis** (*Off.*).

Precipitated Zinc Oleate (see below) 1, Soft Paraffin, hite, 1. Melt together and stir till cold. For some ses further dilution with vaseline is advisable. This oint- ent, having the zinc in solution, has the advantage over nc ointment B.P., in most cases in which the use of is is indicated, in not coating the sore, to which it is plied, with a crust of débris, which checks healing d irritates the part on removal.

Chronic eczema, cases of, cured by above ointment.— .M.J. ii./78,622; B.M.J. i./79,652.

Further, found useful in eczema; one drop of otto of se covers its faint smell.—B.M.J. i./79,586.

**nguentum Oleatorum, G.H.**

Zinc Oleate Ointment 2, Diachylon Ointment 2, ercuric Oleate Ointment 2.

**inci Oleas.**

Hard Soap in shavings 16, Boiling Water 120; apply at till dissolved. Zinc Sulphate 8, Boiling Water 16; ssolve and add to former solution; stir well, separate the water from the Oleate floating on the top, and wa the latter with hot water till free from sulphate, coo and dry. Reduced to powder it resembles powder French chalk in appearance, and is useful for dustin on eczematous surfaces and parts troubled with exce sive perspiration. It may be perfumed by the additio of $\frac{1}{500}$ of thymol, and diluted with kaolin or starc It is *the* remedy for hyperidrosis and osmidrosis.—L i./82,974; M.R. 1882,449.

## OLEUM GYNOCARDIÆ, I.C. Add.

## Chaulmoogra Oil.

*Dose.*—5 to 10 minims (0·3 to 0·6 Cc.), gradua increased to 1 drachm (3·5 Cc.) in capsules, cod-live oil, or milk.

The oil expressed from the seeds of *Gynocardi odorata*, imported from India. It has a pale brownis colour and a disagreeable taste and smell. It is alwa solid and unctuous in this climate, as it contains quantity of palmitic acid, with three other fatty acids; these **Gynocardic Acid** is supposed to be the activ ingredient; this causes it to give a reddish-brow coloration, changing to green with sulphuric aci *Dose.*—½ to 3 grains (0·032 to 0·2 Gm.). Th oil is applied externally, and given internally *aft meals* for leprosy, phthisis, scrofula, marasmus, psoriasis, and lupus. For chronic rheumatism and rheumati gout it forms a useful application with gentle friction For phthisis 2 to 4 ounces should be rubbed into th chest weekly.—B.M.J. i./81,475,559; i./70,431,968 B.M.J. ii./80,844; Pr. xxi.321, xxii.241; L.ii./87,604

In old standing eczema, with thickening of the skin applied pure or as an ointment was useful.—Pr. xxvi.55

Gynocardic Acid has also been used internally fo leprosy with good results.—B.M.J.E. i./02,28. Als gynocardate of magnesium.—B.M.J. ii./92,1111,1198.

**Unguentum Gynocardiæ,** Gynocardia Ointment, I.C.Add.

Hard Paraffin 4, Soft Paraffin 5; melt and add Gynocardia Oil 1 stir till cold.

## OLEUM MORRHUÆ.

## Cod Liver Oil (*Off.*).

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

**apsules** contain ½ or 1 drachm. *Dose.*—1, 2, or more.

**mulsio Olei Morrhuæ, B.P.C.**

*Dose.*—2 to 8 drachms (7 to 30 Cc.).

| | |
|---|---|
| Cod Liver Oil ... ... ... | 8 ounces. |
| The Yolks of Two Eggs. | |
| Tragacanth, in powder ... | 16 grains. |
| Elixir of Saccharin ... ... | 1 drachm. |
| Simple Tincture of Benzoin ... | 1 drachm. |
| Spirit of Chloroform ... ... | 4 drachms. |
| Essential Oil of Bitter Almonds | 8 minims. |
| Distilled Water ... | *q.s.* to 16 ounces. |

Measure five ounces of water, place the tragacanth in dry mortar, and triturate with a little of the cod-liver l; then add the yolks of eggs, and stir briskly, adding ater as the mixture thickens. When of a suitable nsistence, add the remainder of the oil and water ternately, with constant stirring, avoiding frothing. ransfer to a pint bottle, add the other ingredients, reviously mixed, shake well, and add water, if necessary, produce 16 ounces.

**mulsio Olei Morrhuæ et Glycerophosphatum,** *v.p.*26.

**mulsio Olei Morrhuæ et Hypophosphitum.**

*Dose.*—2 to 8 drachms (7 to 30 Cc.). Contains ypophosphites of Sodium and Calcium, of each 1 per nt.

**leum Morrhuæ cum Æthere,** *v.p.*49.

**leum Morrhuæ Phosphoratum,** *v.p.*378.

**leum Morrhuæ cum Quinina,** *v.p.*351.

**Morrhuol.** Prepared from Cod Liver Oil by treatent with 90% alcohol, decanting and distilling off the cohol. Said to be an acrid bitter but aromatic liquid ntaining phosphorus, iodine, and bromine in peculiar mbination.

*Dose.*—In capsules containing 0·20 gramme, 1 or 2, ch equal to 5 grammes of the oil.

## OLEUM RICINI.

### Castor Oil (*Off.*).

*Dose.*—1 to 8 drachms (3·5 to 30 Cc.).

Expressed from seeds of *Ricinus communis*, solub 1 in 5 of Alcohol (90 per cent.). The seeds, but n the oil, contain the poisonous proteid Ricin.

**Capsules of Castor Oil** contain ½ or 1 drachm.

**Capsules of Castor Oil, Compound,** contai Croton Oil ¼ minim, with Castor Oil 8 minim
*Dose.*—One or two.

**Mistura Olei Ricini,** Castor Oil Mixture. (*Off*
*Dose.*—1 to 2 ounces (30 to 60 Cc.).

Castor Oil 6, Mucilage of Gum Acacia 3, Orang Flower Water (undiluted) 2, Cinnamon Water 5.

To the mucilage contained in a mortar add alternately, in portions, the castor oil and the mixed water with constant trituration.

An agreeable dose, the oil being made more active b emulsification.

**Castor Oil Solutions of Alkaloids.**

Instillation of Castor Oil to the eye allays the irritation caused there by foreign bodies. For this reason also it is employed for making alkaloidal solutions for oculists' use. The bases (but not their salts) are soluble in fixed oils, and for mydriatic, as well as myotic purposes, the Castor Oil solutions of some have proved very useful. A 2 per cent. solution of the combined bases Homatropine and Cocaine in it has been of great service (*p.*93). A 2 per cent. solution of Euphthalmine and 1 per cent. solutions respectively of Atropine, Atroscine, Cocaine, Duboisine, Gelseamine, Homatropine, Hyoscine, Hyoscyamine, Pilocarpine and Scopolamine have also been used. Physostigmine (Eserine) is used in ½ per cent. solution. Caffeine and Morphine are barely soluble in it to the extent of ½ per cent. Castor Oil will dissolve as much as 4 per cent. of Cocaine.

**Mistura Antiseptica, U.C.H.**

Solution of Mercuric Chloride (*off.*) 1 minim, Castor Oil Mixture 1 drachm. For infantile diarrhœa.

**Sodii Sulphoricinas**, prepared by the action in the cold of sulphuric acid on castor oil, washing and nearly neutralising the product with soda, is used in the orm of suppository as a purgative; ricinoleate of magnesium found unsatisfactory internally.—P.J.1895,706.

**Phenol Sodio-Sulphoricinate.** A mixture of henol and sodium sulphoricinate, is a yellowish brown hick syrup miscible with water. Used in 20 to 50 per ent. solution for papilloma and tuberculosis of larynx. —P.J. ii./00,305.

## OLEUM ROSÆ.

**Oil of Rose.**—*Syn.* Otto of Rose (*Off.*); **Attar of Rose.**

Distilled from the fresh flowers of *Rosa damascena*. p. Gr. 0·856 to 0·860 at 86° F. Congealing and melting points should lie between 67° and 72° F. Mixed ith an equal volume of chloroform it does not congeal nd is convenient for use.

**Aqua Rosæ** (*Off.*).—*Syn. Eau de Rose.* *Dose.*—1 to 2 ounces (30 to 60 Cc.) of the diluted water.

Should be diluted with twice its volume of distilled ater immediately before use.

**Glycerinum cum Aqua Rosæ**, *v.p.*251.

**Mistura Rosæ Laxativa, G.H.** *Dose.*—1 ounce.

Magnesium Sulphate 40 grains, Pimento Water 2 rachms, Acid Infusion of Roses to 1 ounce.

**Pulvis Rosæ Compositus.** *Dose.*—Ad libitum.

Oil of Rose and Chloroform of each 1 (or combined drops), Acacia 145 (grains), Sugar 840 (grains), Solution f Carmine 13 (drops). Useful as an agreeable diluent or powders such as Calomel, Grey Powder and Jalapin, lso as a colouring and flavouring agent in mixtures—or ½ ounce in 6 ounces.

**Unguentum Aquæ Rosæ** (*Off.*).—*Syn.* Ceratum Galeni; Cold Cream.

White Beeswax 45, Spermaceti 45, Almond Oil 270. Melt together; add gradually, with constant stirring, ose Water (*Eau de Rose*) 210, and while cooling, Oil of Rose ½, stir till cold.

## OLEUM SANTALI.

**Oil of Sandalwood** (*Off.*), **P.G. iv.**—*Syn.* leum Santali Flavi, Yellow Santal Oil.

*Dose.*—5 to 30 minims (0·3 to 1·8 Cc.).

The oil distilled from the wood of *Santalum album*, A yellowish liquid, with a somewhat roseate odour, and an aromatic bitterish, slightly acrid taste. Has been employed in the treatment of gonorrhœa and gleet.

It quickly checks the discharge in dose of 15 minims 3 times a day.—Pr. xxvii.440.

In 100 cases of gonorrhœa employed with satisfactory results.—Glasgow Med. Jour. April, 1865.

Taken internally in conjunction with the use of iodoform and eucalyptus bougies, with success.—L. ii./82,215.

Serviceable internally in 10-minim capsules, for chronic cystitis, with benzoic acid and boric acid as adjuvants.—M.C. March 1892,392.

**Capsules of Santal Oil** are prepared, containing 10 minims (0·6 Cc.) in each.

**Mistura Olei Santali.** *Dose.*—One ounce (30 Cc.).

Oil of Sandalwood 4, Tragacanth, in powder 1. Mix, and add quickly Water to 128. Shake well. Aromatic water with syrup may be used.

**Gelatinum Copaibæ,** Copaiba Jelly.

*Dose.*—The size of a filbert in wafer paper.

Thick Copaiba 8 ounces, Sugar in powder 4 ounces, Clear Honey 4 ounces, Distilled Water 5 drachms, Oil of Peppermint 1 drachm, Roseine $\frac{1}{10}$ grain dissolved in water 20 minims. Mix the first four ingredients in a water-dish, heat gently, stirring all the time until the mixture boils, and continue to stir until a jelly is formed; cool somewhat, and add the peppermint and colouring.

**Liquor Copaibæ,** Soluble Copaiba.

*Dose.*—½ to 1 drachm well diluted.

Copaiba 18, Solution of Potash 40. Boil for 15 minutes, transfer to a bottle and set aside to clarify; then syphon off the clear liquor from the supernatant oily portion and the sediment,

**Liquor Copaibæ cum Buchu et Cubeba.**

*Dose.*—1 to 2 drachms, well diluted.

Buchu in powder 5, Cubebs in powder 2, Alcohol (60 per cent.) *q.s.* Percolate and press to obtain 14. Mix 1 part with 2 of Soluble Copaiba.

**Liquor Santali cum Buchu et Cubeba.**

*Dose.*—1 to 2 drachms.

Yellow Santal Wood in powder 4, Buchu in powder 2½, Cubebs in powder 1. Alcohol (60 per cent.) *q.s.* to moisten. Macerate 2 days and percolate with more alcohol and press to obtain 20.

**Liquor Santali Compositus.**

*Dose.*—1 to 2 drachms.

Mix 2 volumes of Soluble Copaiba with 1 of the last preparation.

## OPIUM (*Off.*).

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.).

The inspissated juice obtained by incision of the capsules of *Papaver somniferum* (from any geographical source).

For galenical preparations generally it must contain, when dried and powdered, between 9·5 and 10·5 per cent. of anhydrous morphine; for the Tincture and Extract not less than 7·5 per cent., these being standardised when prepared.

For the chemical principles of opium used in medicine —**Morphine** and **Apomorphine, Codeine** and **Apocodeine, Narceine** and **Narcotine,** see their respective headings.

Strychnine is a valuable remedy for opium poisoning. —B.M.J. i./99,1534.

**Confectio Opii, B.P. 1885.**

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

Compound Powder of Opium 1, Syrup, by weight, 3. Contains Opium 1 in 10. Dried in cylinders weighing 20 grains, is convenient for travellers for use against diarrhœa and cholera.

**Emplastrum Opii** (*Off.*). 1 in 10 of Resin Plaster.

**Extractum Opii** (*Off.*).

*Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.).

An aqueous extract standardised to contain 20 per cent. of morphine.

**Extractum Opii Liquidum** (*Off.*).

*Dose.*—5 to 30 minims (0·3 to 1·8 Cc.).

Extract of Opium 0·75, Distilled Water 16, Alcohol (90 per cent.) 4. Is of same strength as Tincture of Opium, containing 0·75 per cent. of morphine. Resembles Battley's *Liquor Opii Sedativus.*

**Linctus Scillæ Opiatus.**—*Syn.* Linctus Camphoræ Compositus. St. Bart. H.

*Dose.*—1 drachm (3·5 Cc.).

Compound Tincture of Camphor, Oxymel of Squill, and Syrup of Tolu, equal parts.

Brompton H. uses Syrup of Squill *vice* Oxymel in this formula for **Linctus Tolu cum Opio.**

**Linimentum Opii** (*Off.*).

Tincture of Opium 1, Liniment of Soap 1; filter after a few days.

**Linimentum Opii Ammoniatum**, B.P.C.

Soap Liniment, Compound Camphor Liniment, Tincture of Opium, of each 6; Belladonna Liniment, Strong Solution of Ammonia, of each 1. Mix and filter. (Better to stand a week before filtering.) Resembles the nostrum Bow's Liniment.

**Pilula Cupri Composita.** Mid. H. *Dose.*—1.

Copper Sulphate ¼ grain, Opium in powder ½ grain, Extract of Gentian to 3 grains. Varnish with Keratin.

**Pilula Ipecacuanhæ cum Scilla** (*Off.*), *v.p.* 305.

**Pilula Plumbi cum Opio** (*Off.*).

*Dose.*—2 to 4 grains (0·13 to 0·26 Gm.).

Lead Acetate 6, Opium 1, Syrup of Glucose ⅔ or *q.s.*

**Pilula Saponis Composita** (*Off.*).

*Dose.*—2 to 4 grains (0·13 to 0·26 Gm.)

Opium 1, Hard Soap 3, Syrup of Glucose 1.

**Pulvis Cretæ Aromaticus cum Opio** (*Off.*).

Contains Opium 1 in 40.

*Dose.*—10 to 40 grains (0·65 to 2·6 Gm.).

**Pulvis Ipecacuanhæ Compositus** (*Off.*), *v.p.* 304.

**Pulvis Kino Compositus** (*Off.*). 1 in 20.

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

**Pulvis Opii Compositus**, B.P. 1885.

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.).

Opium 3, Black Pepper 4, Ginger 10, Caraway Fruit 12, Tragacanth 1. Contains 1 of Opium in 10.

**Suppositorium Plumbi cum Opio** (*Off.*).

Lead Acetate 3, Opium 1, Oil of Theobroma *q.s.* In grains for one suppository, in grammes for fifteen.

**Tinctura Camphoræ Composita.**—*Syn.* PAREGORIC. (*Off.*). *Dose.*—½ to 1 drachm (**1·8 to 3·5 Cc.**).

Tincture of Opium 585 minims, Benzoic Acid 40 grains, Camphor 30 grains, Oil of Anise 30 minims, Alcohol (60 per cent.) *q.s.* to 1 pint. One drachm = about ¼ grain opium.

**Tinctura Opii.**—*Syn.* LAUDANUM (*Off.*).

*Dose.*—20 to 30 minims (**1·2 to 1·8 Cc.**), or 5 to 15 minims (**0·3 to 0·9 Cc.**), repeated.

Opium 3, rub to a paste with Distilled Water at 200° F., 10; set aside for 6 hours, add Alcohol (90 per cent.) 10; again set aside for 24 hours, strain, press, and after 24 hours filter the product, which is to be standardised to contain 0·75 per cent. of anhydrous morphine, by the addition of a mixture, in equal volumes, of Alcohol (90 per cent.) and Distilled Water. It is thus equal in strength of morphine to *Liquor Morphinæ Hydrochloridi* (3 of alkaloid = 4 of salt), but containing, in addition, the other alkaloids is more soporific.

**Tinctura Opii Ammoniata** (*Off.*).—*Syn.* SCOTCH PAREGORIC.

*Dose.*—½ to 1 drachm (**1·8 to 3·5 Cc.**).

Tincture of Opium 3 ounces, Benzoic Acid 180 grains, Oil of Anise 1 drachm, Solution of Ammonia 4 ounces; Alcohol (90 per cent.) *q.s.* to 1 pint when filtered. One ounce contains ½ grain anhydrous morphine.

**Trochisci Opii, B.P. 1885.**

Contained $\frac{1}{10}$ grain Extract of Opium in each, with liquorice. **Trochisci Sedativi, T.H.**, contain the same quantity with fruit basis.

**Unguentum Gallæ cum Opio.**

Contains 7·5 per cent. of Opium with Gall Ointment (Galls 1, Benzoated Lard 4).

**Vinum Opii, B.P. 1885.**

*Dose.*—10 to 30 minims (**0·65 to 1·8 Cc.**)

Contained 1 of Extract in Sherry 20, with Aromatics.

## PANCREAS.

In the pancreatic juice of man four distinct digestive ferments are believed to be contained, viz.:—

*a.* Trypsin—changes proteids into peptones in alkaline and neutral media, *b.* Curdling Ferment—curdles the casein of milk.

*c.* Pancreatic Diastase—changes starch into sugar and dextrin.

*d.* Emulsive Ferment—emulsifies and partially saponifies fats.—B.M.J. ii./79,683; B.M.J. i. 80,540.

For invalids, aged persons, and those suffering from weak digestion, or those prostrated by fever or exhaustion, preparations of the pancreas of the pig (an omnivorous animal) may be employed, by means of which food may be partially or wholly digested previous to administration; their nutrition is thus maintained, and the stomach has time to regain its wonted powers of digestion.

**Extractum Pancreatis.**

An American preparation, is sold in three forms:—(1) The powder put up in $\frac{1}{4}$-ounce and 1-ounce bottles; requires the addition of sodium bicarbonate; is used for peptonising beef-tea, milk, and gruels. (2) Tablets of Extractum Pancreatis weighing 3 grains. *Dose.*—One or two, an hour or so after meals. (3) Peptonising powders in glass tubes, each containing 5 grains of Extractum Pancreatis and 15 grains of sodium bicarbonate; are used for peptonising milk, gruel, &c.

**Pancreatinum, Pancreatin, U.S.**

*Dose.*—2 to 4 grains (0·13 to 0·26 Gm.).

A yellowish or greyish white amorphous powder, almost completely soluble in water, insoluble in alcohol, consisting of a mixture of the enzymes of the pancreas, obtained usually from the hog. It digests albuminoids and converts starch into sugar in an alkaline medium.

A desiccated preparation of the Pancreas, mixed with powdered malt, is prepared in England and sold as **Pancreatine.** *Dose.*—2 to 4 grains. It is very hygroscopic; if carefully prepared contains the active principles of the Pancreas.—Proc. Roy. Soc. xvi.209; B.M.J. ii./80,841.

**Pancreatine Tablets,** $2\frac{1}{2}$ grains, with Sodium Bicarbonate, are prepared. One is sufficient to peptonise half a pint of milk.

**Liquor Pancreatis,** Pancreatic Solution (*Off.*).

*Dose.*—1 to 2 drachms (3·5 to 7 Cc.).

Fresh pancreas of the pig, freed from fat and external membrane, and divided by trituration with washed sand or pumice-stone, 1, Alcohol (20 per cent.) 4, Macerate for seven days and filter.

**Liquor Pancreaticus** (Benger's).

Similar to above.—Proc. Roy. Soc. xxxii.145.

These solutions possess the amylolytic or diastasic properties of converting starch into dextrin and sugar (maltose and dextrose), and the proteolytic or tryptic action of converting albumen and fibrin into peptones, and of first curdling and then peptonising milk.

*Dose.*—1 to 2 drachms (3·5 to 7 Cc.) in water with meals, or mixed with food, such as farinaceous gruels, bread-and-milk, or arrowroot, when cool enough to sip; or, when given to aid intestinal digestion, 1 or 2 drachms in water with a pinch of sodium bicarbonate 2 or 3 hours after a meal. As an addition to nutritive enemata, a dessertspoonful should be added to beef tea or milk gruel just before its administration. Liquor Pancreatis will not keep diluted, and a temperature much over 140° F. destroys the ferment, which does not act in an acid medium.—B.M.J. ii./79,683,724; B.M.J. i./80,539,575, 614,647,683; L. i./80,513,549,589,629,705,753,827.

**Peptonised Milk.**

Mix two-thirds of a pint of fresh milk with one-third of a pint of water, and warm in a saucepan to a temperature of about 140° F. (or the diluted milk may be divided into two equal portions, one of which may be heated to the boiling point and then added to the cold portion, the mixture will then be of the required temperature). Add two teaspoonfuls of Liquor Pancreatis, and half a level teaspoonful of sodium bicarbonate. Pour the mixture into a covered jug and place in a warm situation for ten to twenty minutes, then boil the product. It can then be kept and used like ordinary milk.

**Pilula Pancreatica** (Benger).

*Dose.* One after meals. Suggested in pancreatic diabetes, where the glycolytic or sugar-destroying ferment in the blood, normally furnished by the pancreas and other glands, fails. The pills are keratined to carry them through the stomach intact.—L. i./92, 635,904,961.

Pancreatic juice diminishes sugar in diabetic urine.—B.M.J.E. ii./93, 72.

**Peptonised Beef Jelly.**

An extract of beef containing much of the fibrin converted into peptone or partially digested by pancreatic trypsin. May be taken by teaspoonfuls as a restorative, or added to soups, &c.—Trans. Med. Congress, 1881, i.517.

**A Saline** and a **Neutral Essence of Pancreatine** are prepared by Savory & Moore. *Dose* of each, 1 to 2 drachms diluted. The Neutral Essence has properties like Liquor Pancreaticus, and the Saline Essence is prepared with common salt.—B.M.J. i./80,438,473,512.

**Pancreatic Emulsion.**

Prepared by mixing and pounding the pancreas of the pig with lard and water, straining, and exhausting the strained substance with ether. The ether forms a solution of pancreatised fat. From this the ether is distilled, and the fat mixed with a mixture of rectified spirit and water (1 to 3) and emulsified by agitation. Oil of cloves is added to flavour and preserve it.—Proc. Roy. Soc. xvi.209; L. ii./64,288; L. i./65.620; L. ii./65,534,562; L. ii./66,542.

*Dose.*—1 to 3 drachms, in a little milk or water, with a little spirit added, if liked, once or twice a day 1 or 2 hours after a meal. Given in consumption and other wasting diseases attended with loss of power to digest and assimilate food, especially where fats and cod-liver oil do not agree with the stomach.

**Pancreatised Farinaceous Food** (Benger's).—Wheat flour, partially dextrinised by dry cooking, is impregnated with an extract of pancreas; is suitable for infants and invalids; when mixed with milk or milk and water, artificial digestion of the food and milk takes place, which can be checked at any point by boiling.—Trans. Med. Congress, 1881, i.517; L. i./82,489.

**Pulvis Pancreaticus Alkalinus** (Benger).

Twenty grains in each. Consists of pancreatic enzymes mixed with sodium bicarbonate, one being sufficient to peptonise a pint of milk in from 10 to 30 minutes, according to the amount of predigestion required.—B.M.J. ii./85,191.

**Milk, Artificial Human** (Frankland).

Add to ⅔ pint new milk, the cream removed from another ⅓ pint after standing 12 hours. Curdle this ⅓ pint of skimmed milk with a square inch of rennet by contact for five to fifteen minutes. Break up the curd frequently, and separate the whey, which heat to boiling point, removing the casein which is thus separated. Dissolve 110 grains Milk Sugar in the hot whey, and mix it with the $\frac{2}{3}$ pint milk containing the cream of the other $\frac{1}{3}$ pint. The artificial milk should be used within 12 hours of its preparation, and the same piece of rennet will serve for weeks. B.M.J. ii./93,822.

Preparation of milk for infant feeding, by the addition of oatmeal, butter, and milk sugar to diluted cow's milk.—P.J. 1889,3.

Simpler formula:—New Milk 30, Cream $1\frac{3}{4}$, Milk Sugar $1\frac{1}{8}$, Water 18; with instructions for sterilizing.—P.J. 1892,652. See also P.J., 1893,785,346.

Artificial Human Milk is now sold in bottles, partially pancreatised and sterilised.

## PAPAIN.

*Syn.* PAPAYOTIN. (But this term is sometimes applied to the crude powder produced by drying the juice, otherwise known in commerce as dried Papaw Milk. Dose of this, 3 to 10 grains (0·2 to 0·65 Gm.).

*Dose* of Papain.—1 to 8 grains (0·065 to 0·52 Gm.).

A white or whitish, amorphous, slightly granular powder, prepared from the juice of the papaw, *Carica Papaya*. 75 per cent should be dissolved by absolute alcohol. It acts in acid, alkaline, or neutral media, has the property of digesting fibrin like pepsin, and its action is not checked by carbolic acid.—Trans. Med. Congress, 1881, i.513; P.J. 1880,250,350; B.M.J. ii./91,1318; L. ii./00,327.

Is a vermifuge; report on its digestive power.—P.J. 1885,45. Specially destructive to ascarides.

**Elixir Papain.**

*Dose.*—1 drachm (3·5 Cc.) with meals.

**Glycerinum Papain.**

*Dose.*—1 drachm (3·5 Cc.) with meals.

Glycerin slightly acidulated with hydrochloric acid, is a solvent for papain, and forms a useful mode of administration.—C. & D. ii./00,170. A strong solution will remove tattoo marks.—B.M.J.E. ii./98,36.

Tablets, 2 grains (0·13 Gm.). *Dose.*—1 or more.

**Trochisci Papain** ($\frac{1}{2}$ gr.)—With meals for dyspepsia.

**Trochisci Papain** ($\frac{1}{3}$ gr.) **et Cocainæ** ($\frac{1}{10}$ gr.
These, if slowly sucked, are useful for patches on
tongue, &c.

To remove warts, in chronic eczema and hypertrophied condition of the skin of the palms of the hands, a **Pigment of Papain** 12 grains, Borax 5 grains, water 2 drachms, applied twice a day, was found curative. Recommended also as a solvent of the false membrane in diphtheria. — B.M.J. i./82, 738,845. And for the removal of caseous matter from the external ear. —M.C. May 1890,165.

Solvent action of papayotin painted on diphtheritic membrane is considerable.— Pr. li.372 ; B.M.J.E. ii./93,39.

Will peptonise 200 times its own weight of pressed fresh blood fibrin.—M.R. 1882,454.

Comparison between papain and pepsin as digestive ferments ; acts best in alkaline solutions.—L. ii./87,164.

Ulcers and fissures of tongue painted with a solution of Papain 1 to 2 in 10 each of glycerin and water recommended.—L. ii./87,604 ; ii./93,26 , Th. Gaz. 1887, 717 ; Pr. xliv.55.

Method of papainising milk, 7 grains digest a pint in an hour and a half.—B.M.J. ii./85,125.

Useful in chronic cases of indigestion and dyspepsia, with acid eructations and painful gastric fermentation. —Pr. xli.201 ; L. i./95,1050.

Conditions of papain digestion.—P.J. 1894,183.

Tænia expelled by papain in repeated 10-grain doses. —P.J. 1895,1139.

**Carpaine.** *Dose.*—$\frac{1}{30}$ to $\frac{1}{6}$ grain (0·002 to 0·01 Gm.).

An alkaloid contained in the leaves of *Carica Papaya* ; is a heart poison, and as a tonic may replace digitalis.

Its **Hydrochloride** is freely soluble in water, dose by injection, $\frac{1}{30}$ to $\frac{1}{15}$ grain (0·002 to 0·004 Gm.).

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## PARAFFINUM.

**Paraffinum Durum,** **Hard Paraffin** (*Off.*).—*Syn.* Paraffin Wax.

A mixture of several of the harder members of the paraffin series of hydrocarbons ; usually obtained by distillation from shale, separation of the liquid oils by efrigeration, and purification of the solid product. Is olourless, semi-transparent, crystalline, inodorous, and asteless, slightly greasy to the touch. Sp. Gr. 0·82 to ·94. Insoluble in water, slightly soluble in absolute lcohol, freely soluble in ether. It melts at 130° to 35° F., and burns, but not without a wick, with a bright ame, leaving no residue. The range of melting-point f commercial paraffin is too wide for pharmaceutical urposes (110° to 155° F.).

**eresin.** A hard white paraffin prepared from ozokerit, or earth wax; has melting-point about 155° F. When artificially coloured to resemble yellow wax it is sold as **Yellow Ceresin.**

**araffinum Liquidum,** Liquid Paraffin (*Off.*).

A clear oily liquid, without taste, colour, odour or uorescence, obtained from petroleum after the more olatile portions have been removed by distillation. Has p. Gr. 0·885 to 0·890 (too high, not easily obtainable bove 0·875); boils not below 680° F.

In commerce, Liquid Paraffin is known under various ames, such as **Adepsine Oil, Chrismaline, lymol, Oleum Deelinæ,** and **Paroleine.**

It is used as a basis for laryngeal and nasal spray olutions or pigments, containing menthol (1 in 8 or ore), cocaine (soluble only 1 per cent.) or other edicaments; is a weak solvent of alkaloids except by e intervention of oleic acid.

**araffinum Molle,** Soft Paraffin (*Off.*).—*Syn.* PETROLATUM MOLLE, U.S.

A white or yellow semi-solid mixture containing some f the softer or more fluid members of the paraffin series f hydrocarbons. Melts at 96° to 102° F., or even omewhat higher; is usually obtained by purifying the ss volatile portions of petroleum. It is known in ommerce by various fanciful names, of which

**aseline, Vaselinum,** or (as termed in early editions of this work) **Gelatum Petroleum,** Petroleum Jelly, is most in demand.

This, if repeatedly filtered through animal charcoal, ecomes opal-white in appearance, and is known as

**aselinum Album, White Vaseline.**

Most suitable for toilet and pharmaceutical purposes.

Since first imported, over twenty years ago, there have been several similar compounds produced; among thes which the official description includes, are—

**Adepsine, Chrisma, Cosmoline, Fossilin Ozokerine, Geoline,** and **Salvo Petroli** (white and yellow).

Soft paraffin may be white or yellow, but white is pr ferred. It is bland, inodorous, and tasteless, unirritatin to the skin, mucous membrane, and wounds or sores i any condition. It has the advantage over lard and othe fats, in that it is unchangeable—cannot oxidise or becom rancid, and thus set up irritation. It cannot be saponi fied; caustic alkalis have no action on it; yet it ca easily be washed off with soap and water.

Soft Paraffin is insoluble in water, only slightly and par tially soluble in alcohol, freely soluble in ether and chlo roform. When melted, it combines with oils, melted fats and paraffin wax, oleates, and oleic acid. It readil dissolves thymol, menthol, and salicylic acid; less s chrysarobin and phenol about 1 in 20; the alkaloid dissolve in it in about the following proportions:— atropine, 1 in 120; cocaine, 1 in 100; morphine, 1 in 200 quinine, 1 in 80; and veratrine, 1 in 80. The oleic aci solutions of these alkaloids dissolve in it in all proportions.

Soft paraffin is not readily absorbed, but protects the part to which it is applied, and hence is suitable as a vehicle for drugs intended to have a surface action, as in many skin diseases; by its emollient effect it prevents the formation of hard crusts of débris. It is likewise well adapted for drugs which turn lard and other fats quickly rancid, such as preparations of lead, mercury, zinc, and sulphur iodide. Still, where soft paraffin, either by itself or as the basis of a medicament which does not dissolve in it, is required to be applied as an ointment spread on lint or rag, it melts so readily that it becomes absorbed by the dressing, spreads to the surrounding parts, and leaves the medicament dry on the sore. To obviate this, a firmer basis, and one requiring a higher temperature for complete liquefaction is necessary, hence the writer introduced as a basis for ointments:—

## Ceratum Petrolei.

Vaseline or Salvo Petrolia (preferably white) 2 parts, Paraffin (135° to 140°) 1 part.

Melt and stir till cold. It should be stirred with a alette knife in a large shallow evaporating dish, and e frequently scraped from the sides. Its tendency to form umps is thus avoided. For complete liquefaction, this equires a temperature of about 125° F. It does not, erefore, completely liquefy on the surface of the body, nd is suitable as a basis for ointments to be applied read on lint or rag, to which it adheres more firmly than the skin, so that on removal the wound or sore is left ean and free from any adhering ointment, &c. A ttle rubbed on the skin of the face or hands protects e parts more effectually than simple soft paraffin. ith slight modification, the British Pharmacopœia as adopted this basis as—

**nguentum Paraffini, Paraffin Ointment** (*Off.*).

Hard Paraffin 3, Soft Paraffin 7. Prepared as above. Vhen Paraffin Ointment is used as the basis of white intments, it should be prepared with the white variety f Soft Paraffin; and when used in coloured ointments it hould be prepared with the yellow variety of Soft araffin. But the white ointment is mostly preferred.

The proportions of hard and soft paraffin may be nodified in order to meet the exigencies of climate and emperature.

**il Vaseline.**—*Syn.* LIQUID VASELINE.

Under this name a semi-liquid mixture of paraffins of ow melting-point is used as a vehicle for **Hypodermic Injections**; the medicaments may be either issolved or suspended in it. Thus it, or Oleum Deelinæ (*v.p.*369), which is more limpid, is recommended as a solvent for **Cocaine** (1 per cent.), **Helenin** (1 per cent.), **Iodine** 2 per cent.), **Iodoform** (1 per cent.), **Thymol** (10 per cent.), **Phenol** (1 per cent.), and **Phosphorus** (1 per cent.); also or Agaricin, Hyoscyamine, Physostigmine, Quinine, nd Salol, with the intervention of Chloroform as a first olvent, but these latter do not prove satisfactory.

It is also used in syphilis for the suspension of insoluble mercurial salts for hypodermic injection, such as alomel, salicylate, succinimide, thymol-acetate, and ellow oxide of mercury, 10 per cent. mixtures being mployed.

**Emulsio Petrolei cum Hypophosphitibus B.P.C.**

*Dose.*—1 to 4 drachms.

Liquid Paraffin 8 ounces, Gum Acacia 4 ounces, Oil o Cinnamon 24 minims, Tragacanth 120 grains. Mix and add Water 6 ounces. Dissolve Sodium Hypophosphite and Calcium Hypophosphite of each 192 grains, in Wate 4 ounces. Add to the above with constant trituration then Water *q.s.* to 24 ounces.

**Petrolatum,** Petroleum Ointment, U.S.

One having a melting point of 104° to 113° F. and another 113° to 125° F., are official.

**Unguentum Petrolei,** Petroleum Ointment, L.H. Yellow Wax 30 grains, Vaseline 1 ounce; melt and stir until cold.

**Vasogen** and **Valsol** (or Valsolum).

Under these names oxygenated petroleum has been recommended as a vehicle for camphor and chloroform equal parts, creosote 20 per cent., guaiacol 20 per cent., ichthyol 10 per cent., iodine 6 and 10 per cent., iodoform 3 per cent., menthol 2 per cent., mercury 33 and 50 per cent., sulphur 3 per cent. (Vasothion), tar 25 per cent. and other substances for skin medication. Dissolves iodoform; useful to inject this in tubercular abscesses and anal fissure.—P.J. ii. 95.79; L. ii. 90.219.

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# PELLETIERINA.

## Pelletierine.

*Dose.*—3 to 6 grains (0·2 to 0·4 Gm.).

An alkaloid obtained from Pomegranate Root Bark, *Punica Granatum*, in minute shining white crystals.

The alkaloids in Pomegranate-bark are at least four in number—Pelletierine, Isopelletierine, Methylpelletierine and Pseudopelletierine. The two first are therapeutically active and constitute 40 to 50 per cent. of total alkaloidal contents which varies between 0·5 and 0·7 per cent.

**Pelletierinæ Sulphas,** Punicine Sulphate.

*Dose.*—5 to 8 grains (0·32 to 0·52 Gm.).

A brown viscid, syrupy liquid, freely soluble in water. 5 grains subcutaneously injected is recommended for paralysis, vertigo, Menière's disease, tetanus, d hydrophobia, but mostly used as a remedy for tape-orm; 5 to 8 grains taken fasting, followed by a full se of compound tincture of jalap; in nine cases out of n the head is passed; for 13 years, half the above se, and for infants one-tenth.—L. i./86,127.

The **Sulphate of Pseudo-Pelletierine**, in small hite acicular crystals, is not used medicinally.

**elletierinæ Hydrobromidum.**

*Dose.*—5 to 8 grains (0·32 to 0·52 Gm.).

A brownish viscid liquid. Used in case of paralysis of uscles of the eye with good results.—P.J. 1886,1006.

**elletierinæ Tannas**, Pelletierine Tannate.

*Dose.*—5 to 8 grains (0·32 to 0·52 Gm.).

A greyish white amorphous powder insoluble in water. tapeworm is an efficient remedy. As a tæniafuge, 8 ains followed in 2 hours by an ounce of castor oil oved an effectual dose, causing neither colic nor head-he.—Pr. xxiv.134; Pr. xxiii.368.

Galezowski reports that the internal use is apt to use diplopia.—B.M.J. ii./85,1037.

Pelletierine the best known remedy for large tape-orms.—L. ii./94,1273.

## PEPSINUM.

## Pepsin (*Off.*) and U.S.

The gastric juice of man is believed to contain two istinct digestive ferments:—

*a*. Pepsin. This changes proteids (fibrin, albumen, &c.) into peptones in an acid medium. To this the medicinal pepsins principally owe their activity.

*b*. Curdling ferment, which curdles the casein of milk; this is very active in the stomach of the calf, even when dried: it is contained in the preparations of rennet preserved with common salt, known as **Essence of Rennet**.—B.M.J. ii./79, 683; B.M.J. i./80,540.

The medicinal preparations of pepsin rarely possess he latter property in an active condition, and their roteolytic or peptonising power is only exerted in an cid mixture.

**Pepsin** (*Off.*) is a light yellowish brown or white owder, or in translucent grains or scales, prepared by drying under 100° F. the fresh mucous lining of th stomach of the pig, sheep, or calf. It has a faint, no disagreeable, odour, is moderately soluble in water o soluble 1 in 100 of alcohol (90 per cent.); rubbed wit water, it makes a glairy mixture. That prepared fro the stomach of the pig is preferred, and known as Pepsin Porci. Pepsin should dissolve 2,500 times its weight o hard-boiled white of egg.

*Dose.*—5 to 10 grains (0·32 to 0·65 Gm.) eithe with or immediately before or after meals, in a pill wit glycerin, or wrapped in wet wafer paper, or sprinkle between slices of bread and butter. It is not unpalatabl sprinkled on meat like pepper.

**Glycerinum Pepsini** (*Off.*).

*Dose.*—½ to 2 drachms (3·5 to 7 Cc.) in water.

Glycerin 525, Distilled Water 260, Hydrochloric Acid 10. Mix and add Pepsin 80. After a week decant or filter, and add Distilled Water *q.s.* to 875 (=Pepsin 1 in 12).

Glycerin is a powerful solvent and preservative of the active principles of the gastric juice. The above preparation is a very active solution slightly acidulated with hydrochloric acid.—Pr. xxiv.192.

In diphtheria, used as a solvent for membrane.—L. ii./81,700.

**Liquor Pepticus** (Benger's).

*Dose.*—1 to 2 drachms (3·5 to 7 Cc.) in a wineglassful of water with meals.—B.M.J. ii./80,683.

An active solution of the gastric ferments in weak alcohol.

**Pepsina Amylacea, Pepsine Acide Amylacée ou Poudre Nutritive of the French.**

*Dose.*—5 to 15 grains (0·32 to 1 Gm.). Is prepared with the addition of starch and slightly acidulated with hydrochloric acid.

**Pepsinum Saccharatum, U.S.**

Pepsinum U.S. 1, Milk Sugar 9. Resembles Pepsinum Saccharatum, P. Jap.

**Pepsin-Essenz** (Liebreich's).

*Dose.*—1 to 2 drachms (3·5 to 7 Cc.) in water after meals.

This preparation contains principally the curdling ferment in diluted glycerin solution; it is weak in proteolytic power.—Pr. xxiv.192.

**Peptone.**

A whitish or pale-brown powder, prepared from meat he proteids and albuminoids), peptonised either by idulation and heat under pressure, or by artificial gestion with pepsin or trypsin, and freed from saline atter. It is soluble in water, and is used to add to lly for germ-cultivation, and as a test for bile products urine.

Résumé of experiments on peptones. Evidence in vour of their use as food. — B.M.J. ii./89,136; P.J. 889,63.

**Peptonised Beef.**

A chocolate-coloured paste, having a bitter taste nd the odour of extract of beef; prepared by artificially gesting beef by means of acidified fresh gastric juice nd concentrating the solution. It is sometimes added beef tea, but is too unpleasantly bitter to be readily ken by patients. It forms a useful nutritive enema.

**Peptonised Beef Suppositories.**

Contain about 30 grains of the last preparation in ich. As much as 2 ounces of proteids can be admin-tered daily by this means.—B.M.J. i./81,271; B.M.J. /82,421,459.

**Peptonised Iron, Solution of,** *v.p.*243.

**Peptonoids of Beef** (Gerrard).

Lean Beef, finely minced, 8 ounces, Pepsin 60 grains. Mix and add Diluted Hydrochloric Acid 2 drachms, Water 1 pint. Digest for 3 hours at 130° F.; neutralize ith Sodium Bicarbonate, and strain.

**Tabellæ Pepsini.** *Dose.*—1 or 2 with meals.

These have 3 grains of pepsin in each in combination ith chocolate, they are portable and palatable.

Tablets, compressed, 3 grains (0·2 Gm.).

**Tabellæ Pepsini et Bismuthi.** *Dose*—1 or 2.

Have 3 grs. bismuth oxynitrate added to the above.

**Vinum Pepsinæ, B.P.C.**

*Dose.*—1 to 2 drachms (3·5 to 7 Cc.) with meals.

Pepsin 320 grains, Hydrochloric Acid 2 drachms, Glycerine 1 ounce, Sherry *q.s.* to 1 pint.

P. Aus. Add. Malaga Wine 1000, Gelatin 1 dissolved n Water 10, mix and add to Pepsin, Distilled Water of each 25, Diluted Hydrochloric Acid 3. Stand for days, shaking frequently, then filter.

U.C.H. has Pepsin 3, Diluted Hydrochloric Acid 3, Sherry 60, macerate 2 days and filter. (Use Soluble Pepsin.)

## PHOSPHORUS *(Off.)*.

*Dose.*—$\frac{1}{100}$ to $\frac{1}{20}$ grain (0·00065 to 0·0032 Gm.), carefully increased.

A semi-transparent, colourless metalloid, brittle at low, soft and flexible at common, temperatures, melts at 110° F., ignites in the air at a slightly greater heat, and forms dense white fumes of phosphoric anhydride. At low temperatures it emits white vapours of phosphorous anhydride. It is insoluble in water, soluble about 1 in 320 of absolute alcohol, about 1 in 200 volumes of absolute ether, about 1 in 25 volumes of chloroform, 1 in 100 of Dutch liquid (this takes up much more if warmed), about 1 in 100 respectively of almond, olive, castor, and theobroma oils, suet, and most fixed oils and fats; soluble in melted resins (? not unchanged in some); soluble in half its weight of carbon bisulphide; soluble also in, or rather combines chemically with, oils of turpentine and peppermint, forming non-luminous and comparatively non-poisonous liquids. These, as well as other essential oils, are incompatible with Phosphorus. French Oil of Turpentine (from *Pinus maritima*) is considered its best antidote—30 minims every half-hour.

Poisoning by phosphorus; solution of potassium permanganate, $\frac{1}{3}$ per cent., an efficient antidote, quickly converts it into phosphoric acid.—P.J. 1892,809; B.M.J.E. i./93,60.

Uncombined Phosphorus is a violent poison, and is a much more energetic medicine than an equivalent quantity of any of its chemical compounds. To obtain its full medicinal and certain action, and ensure its complete absorption, it should be administered in solution either in oil or fat is most reliable. But its solutions, if liquid, are unpleasant to take and cause disagreeable eructations. Many are unstable, as on exposure to the air they rapidly oxidise and form almost inert compounds. It is a difficult pharmaceutical problem to present it in an active and palatable condition. The French perles or globules of phosphorated oil are table and active, only the dose contained in them is overtated. Solutions of Phosphorus in oil of theobroma or uet make active pills, if these are coated with sandarach olution, and not kept too long. All the preparations of Phosphorus require skill and care, else much of the Phosphorus is spent or oxidised during manipulation. In making it into pills, this may be partially checked by dropping a minim or two of chloroform into the mortar, the vapour of which checks the luminosity of Phosphorus.

Phosphorus is a nervine tonic and stimulant—given for nervous prostration, paralysis agitans, locomotor ataxy and impotence. It is most useful in neuralgia—especially in aged persons, in leucocythæmia, and in some skin diseases. In psoriasis, chronic eczema, and lichen it acts somewhat like its chemical ally, arsenic.

**Amorphous** or **Red Phosphorus.**

*Dose.*—(?) 1 grain (0·065 Gm.).

An allotropic variety of Phosphorus, obtained by prolonged heating at a temperature of 464° F. without access of air. It is a red powder, insoluble in the simple solvents that dissolve ordinary Phosphorus. It might be administered in a pill, first triturated with milk sugar and massed with glycerin of tragacanth, but it is unsafe, and rarely used medicinally. If perfectly free from white Phosphorus, which constitutes its danger, it appears to be physiologically and therapeutically inert. Half-drachm doses were taken 3 times a day for 40 days without apparent effect.—P.J. 1875,41.

## *Preparations.*

*N.B.—All preparations of Phosphorus require to be kept from the light and in a cool place, and to be as carefully and freshly prepared as possible.*

**Alcoholic Solutions** of **Phosphorus** have been employed medicinally; but, as it requires 320 parts of cold and 180 of boiling absolute alcohol to dissolve it, and even in this quantity solution is difficult, and as on addition to water the Phosphorus is all precipitated, such solutions are unsatisfactory, uncertain, and give deceptive results.—Pr. xi.19; P.J. 1873,452.

**Æther Phosphoratus, Teinture Ethérée de Phosphore** (Codex, 1839).

Phosphorus, in small pieces, 4, Purified Ether, Sp. Gr. 0·720 (by weight), 200.

Macerate with frequent shaking in a dark place for a month and decant. About one-third of the phosphorus only is dissolved, it contains 1 in 150 (or 205 by measure). *Dose.*—1 to 10 minims (0·06 to 0·6 Cc.).

In neuralgia, 5-minim doses effected a cure, taken on the advent of an attack and repeated as required.—L. ii./72,690.

In neuralgia, 1-minim doses useful.—B.M.J.ii.,'78,975; B.M.J. i.,/79,176.

**Elixir Phosphori.** *Adopted by B.P.C., and as* **Glycerinum Phosphori, G.H.**

Add Compound Tincture of Phosphorus (v.p.381) 1 drachm, to Glycerin 4 drachms. *Prepare freshly.*

*Dose.*—15 to 60 minims (0·9 to 3·5 Cc.) in water. Contains $\frac{1}{50}$ grain in one drachm. As a fluid form of Phosphorus this is palatable and is well borne by the stomach.

**Oleum Phosphoratum** (*Off.*).

*Dose.*—1 to 5 minims (0·06 to 0·3 Cc.), on sugar or in perles.

Contains about 1 per cent. (by weight) of Phosphorus in prepared almond oil; it is about as saturated as the corresponding preparation in the Paris Codex is, in which 1 in 50 is ordered, but only 1 per cent. is dissolved. *Oleum Phosphoratum*, P. Aus. Add., contains only one-tenth per cent of Phosphorus. It is phosphorescent in the dark. Diluted with twice its bulk of almond oil, so as to make it 1 in 300, it forms a liniment or eye-drops, which has been used in Paris for the cure of cataract without operation. 3 to 5 instillations are used per diem.

**Perles of Phosphorated Oil.**

*Dose.*—One after meals.

These are imported from France, containing $\frac{1}{100}$ grain, $\frac{1}{65}$ grain, and $\frac{1}{32}$ grain of Phosphorus respectively.

**Phosphorated Cod Liver Oil.**

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

Is prepared by adding 160 minims of Phosphorated Oil, B.P. to a pint of cod liver oil. It contains $\frac{1}{100}$

grain in one drachm. It is a very unstable and unpalatable preparation, but may conveniently be given in **Capsules**, containing half and one drachm respectively. —P.J. 1877,694,712,748.

**Pilula Phosphori** (*Off.*).

*Dose.*—1 to 2 grains (0·065 to 0·13 Gm.).

Phosphorus 1, White Beeswax, melted, 12·5, Lard, melted, 12·5, Kaolin 11·5, Carbon Bisulphide 3·3 or *q.s.* Place the melted wax and lard in a slightly warmed mortar and stir until of the consistence of cream. Dissolve the phosphorus in the carbon bisulphide, mix with the melted fats, and add the kaolin. This mixture is to be kept under water in a bottle, from which light is excluded, and when dispensed, three parts are to be mixed with one part of gum acacia in powder to make a 2 per cent. mass. The pills should be varnished. The writer has been in the habit of preparing phosphorus pills with the oil of theobroma solution of phosphorus devised by him, as follows:—

**Pilula Phosphori** (Martindale).

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.).

Phosphorus 1 and Oil of Theobroma *q.s.*

Heat the oil to 300° F. and sustain the heat for 5 minutes. Strain and weigh 99 into a wide-necked bottle with an indiarubber cork, and when cooled to 130° F. add the Phosphorus, cork and shake well till the fat begins to solidify. In rolling it into pills, divide into suitable lots, and beat each in a mortar to render it plastic before applying it to the machine, then work off quickly and cover with sandarach solution. The mass contains 1 per cent. of Phosphorus in perfect solution. It should be kept from the light.—P.J. 1870,414; L. ii./76,705; B.M.J. ii./76,641.

When Phosphorus is to be combined with other ingredients in a pill, a more concentrated fatty basis is to be preferred. The following will contain about 10 per cent. of Phosphorus:—

**Sevum Phosphoratum,** 10 per cent.

Phosphorus 1, Pure Carbon Bisulphide 5. Dissolve and add Prepared Suet 9.

Add a little of the suet at first, mix quickly, add the remainder, mix thoroughly and allow the bisulphide to evaporate. This basis may be used to make the following pills.—*Dose* of each, one directly after meals.

**Pilula Phosphori** ($\frac{1}{50}$ gr.) **cum Ferro** (3 grs.).

| | |
|---|---|
| Phosphorated Suet ... ... | 10 grains. |
| Reduced Iron ... ... ... | 150 grains. |
| Compound Tragacanth Powder... | 10 grains. |
| Chloroform ... ... ... | 15 minims. |
| Mix, and add quickly | |
| Mucilage of Acacia *q.s.* | |

Mix, and divide into 50 pills (or into 750 pills if the quantities be taken in grammes). Cover with sandarach solution. The chloroform prevents phosphorescence and oxidation.

**Pilula Phosphori** ($\frac{1}{50}$ gr.) **cum Ferro** (3 grs.) **et Nuce Vomica** ($\frac{1}{3}$ gr.).

Make as last, adding $\frac{1}{3}$ grain Extract of Nux Vomica to each.

**Pilula Phosphori** ($\frac{1}{50}$ gr.) **cum Nuce Vomica** ($\frac{1}{3}$ gr.).

Prepare as the last pills, replacing the reduced iron by one grain of milk sugar in each.

**Pilula Phosphori** ($\frac{1}{50}$ gr.) **cum Quinina** (1 gr.).

| | |
|---|---|
| Phosphorated Suet ... ... | 10 grains. |
| Quinine, pure (= 50 grs. Sulphate) | 38 grains. |
| Chloroform ... ... ... | 20 minims. |
| Mix quickly, and add | |
| Compound Tragacanth Powder... | 10 grains. |
| Mucilage of Acacia ... ... | *q.s.* |

Mix, and divide into 50 pills (or into 750 pills if the quantities be taken in grammes). Cover with sandarach solution.

**Pilula Phosphori** ($\frac{1}{50}$ gr.) **cum Quinina** ($\frac{1}{2}$ gr.) **et Ferro** (3 gr.).

Make as last, using half the quantity of quinine there ordered, and adding 3 grains Reduced Iron to each pill.

**Pilula Phosphori** ($\frac{1}{50}$ gr.) **cum Quinina** ($\frac{1}{2}$ gr.), **Ferro** (3 grs.), **et Strychnina** ($\frac{1}{40}$ gr.).

Prepare as the former pills, adding the proportionate quantity of strychnine.

**Pilula Phosphori** ($\frac{1}{50}$ gr.) **cum Strychnina** ($\frac{1}{40}$ gr.).

Prepare as Pilula Phosphori cum Quinina, with Strychnine 1¼ grains *vice* Quinine 38 grains.

**Pilula Phosphori** (1/50 gr.) **cum Strychnina** (1/40 gr.) **et Ferro** (3 grs.).

Prepare as Pilula Phosphori cum Strychnina, adding grains Reduced Iron to each pill.

**Pilula Damianæ Composita,** *v.p.*215.

**Tinctura Phosphori Composita.** *Adopted by B.P.C.* *Dose.*—3 to 12 drops on sugar.

Phosphorus 1, Chloroform 100. Warm gently in a stoppered bottle till dissolved, and add the solution to Absolute Alcohol 500.

Shake well and keep in the dark. Contains 1 in 600. Becomes acid on keeping.

**Zinci Phosphidum,** Zinc Phosphide, **U.S.** *Dose.*—1/20 to 1/3 grain (0·0032 to 0·02 Gm.).

A steel grey crystalline powder, of which about one-fourth of the weight is Phosphorus, but it has only about one-eighth the medicinal activity of the latter. It has been used in medicine as a form of administering Phosphorus. It is stable, not oxidised by trituration, and can readily be formed into pills by levigation with milk sugar and glycerin of tragacanth.

**Pilula Zinci Phosphidi.**

One-sixth of a grain in each, prepared as above.

## *References to Phosphorus.*

Relieves epileptiform vertigo, nervous break-down, anæmia, and neuralgia.—Pr. x.230.

For neuralgia, tic douloureux and hemicrania, frequent doses of 1/30 to 1/20 grain useful.—M.T.G. /73,412.

Use in angina, essential or pernicious anæmia, and leucocythæmia.—Pr. xix.16.

Psoriasis, rapid cure by.—L. ii./76,877.

Use in leucocythæmia, debates and notes on.—L. ii./76,786,799,858,868.

Letters on pharmaceutical preparations of, recommending pills with oil of theobroma.—L. ii./76,705; B.M.J. ii./76,641; B.M.J. i./79,103,257,378,614.

Poisoning by phosphorus rat poison with recovery, treated with milk, solution of morphine and opium, and an enema of castor oil and opium.—L. i./80,644.

Two cases of lymphadenoma, showing the hæmatinic influence of Phosphorus. In one, during 5 months' treatment, the red blood corpuscles increased from 52 to 76 per cent.; in the other, from 62 to 80 per cent. in 31 days.—Pr. xxi.1.

Tubercular meningitis, valuable in the treatment of. —Pr. xxxiii.438.

Case of diabetes improved under Phosphorus.—B.M.J. ii./89,1216.

In rickets acts better and more rapidly than other remedies; small doses ($\frac{1}{130}$ to $\frac{1}{65}$ grain) are well borne by children for long periods—M.P.C. ii./90, 415; Th. Gaz. 1890,842.

Suggested use of Phosphorus in osteomalacia.—Pr. li.137.

The **Hypophosphites** of **Ammonium, Calcium, Iron, Potassium,** and **Sodium,** being salts which have their Phosphorus in weak chemical combination, are considered as possessing somewhat similar therapeutic properties to Phosphorus. They, like Phosphorus itself, can all be readily ignited when brought in contact with a naked flame. These salts have been much used as nervine tonics, and are specially serviceable in the incipient stages of phthisis, where there is little tendency to hæmorrhage. The calcium salt is particularly useful in checking night-sweats. They are also valuable in the treatment of acne.

### Acidum Hypophosphorosum, B.P.C.

*Dose.*—2 to 5 minims (0·12 to 0·3 Cc.),

A colourless liquid, containing 30 per cent. of hypophosphorous acid.

| | |
|---|---|
| Barium Hypophosphite ... ... (Containing not less than 95 per cent. of Ba.$(PH_2O_2)_2$.) | 8 ounces. |
| Diluted Sulphuric Acid | |
| Distilled Water ... ... ... | of each *q.s.* |

Dissolve the hypophosphite in 36 ounces of hot water, and add slowly 17 ounces of diluted sulphuric acid, continuing the addition drop by drop until no further turbidity is produced. Set aside for 1 hour in a warm place, and filter, washing the precipitate with hot water until the washings have no longer an acid reaction. Evaporate the filtrate on a water bath to about $11\frac{1}{3}$ ounces, or until of sp. gr. 1·1367.

**Ammonii Hypophosphis.**

*Dose.*—1 to 6 grains (0·065 to 0·4 Gm.).

In white deliquescent tabular crystals, soluble 1 in 2 f water. It has a nauseous saline taste.

**Calcii Hypophosphis** (*Off.*).

*Dose.*—3 to 6 (or 10, B.P.) grains (0·2 to 0·65 Gm.).

A white crystalline salt, with a pearly lustre and a itter, nauseous taste, soluble 1 in 7 of water. It is repared by heating phosphorus with milk of lime until phosphoretted hydrogen ceases to be given off, then ltering and evaporating to crystallize. The other salts re generally prepared from this by the double decomposiion of the carbonates or sulphates of their bases.

**Syrupus Calcii Hypophosphitis, B.P.C.**

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.). Each rachm contains about 1 grain of the hypophosphite.

Calcium Hypophosphite 160 grains, Distilled Water ounces. Dissolve, filter, and add Sugar 1 pound. Dissolve with a little heat, and add Hypophosphorous Acid 20 minims, Distilled Water *q s.* to 1 pint.

**Ferri Hypophosphis.**

*Syn.* FERROUS HYPOPHOSPHITE.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) in a pill with syrup.

In commerce is a whitish amorphous powder with a halybeate taste, soluble almost entirely 1 in 8 of water.

**Liquor Ferri Hypophosphitis Fortis, B.P.C.**

*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.).

| | |
|---|---|
| Ferric Chloride ... ... | 1,000 grains. |
| Sodium Hypophosphite ... | 1,100 grains. |
| Distilled Water ... ... ... | *q.s.* |

Dissolve each in 10 ounces of water, add latter to ormer, collect precipitate, wash it until nearly free from hloride and dissolve it in the following Solution :—

Strong Solution of Ammonia 360 minims, Citric Acid 800 grains, Distilled Water 5 ounces. Filter and estimate the Ferric Oxide obtained by precipitation with potassium hydrate after washing, drying and igniting; multiply weight in Gms. by 137·1 to obtain amount of Iron expressed as Ferric Hypophosphite in grains per ounce and adjust by adding water *q.s.* Contains Iron equal to 40 grains of Ferric Hypophosphite in 1 ounce.

**Liquor Hypophosphitum Compositus, B.P.C.**

*Syn.* LIQUOR FERRI HYPOPHOSPHITIS COMPOSITUS.

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

| | |
|---|---|
| Calcium Hypophosphite ... ... | 320 grains. |
| Sodium Hypophosphite ... ... | 320 grains. |
| Magnesium Hypophosphite ... | 160 grains. |
| Strong Solution of Ferric Hypophosphite ... ... ... | 6 ounces. |
| Distilled Water ... ... | *q.s.* to 1 pint. |

Dissolve and mix.

Each drachm contains about 2 grains each of the sodium and calcium hypophosphites, 1 grain magnesium hypophosphite, and 1½ grains of ferric hypophosphite.

Forms a much more useful 'chemical food' for children than Parrish's preparation. Best administered in raisin wine, or for adults in Carlowitz.—B.M.J. i./80,472.

**Syrupus Ferri Hypophosphitis, B.P.C.**

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

Strong Solution of Ferric Hypophosphite 4 ounces. Syrup 16 ounces.

**Pilula Ferri Hypophosphitis cum Strychnina.**

Strychnine $\frac{1}{30}$ grain, Ferrous Hypophosphite 2 grains. To make one pill (or in grammes to make 15).

*Dose.*—1 twice or thrice daily.

**Manganesii Hypophosphis,** *v. p.* 323.

**Potassii Hypophosphis.**

*Dose.*—1 to 6 grains (0·065 to 0·4 Gm.).

A deliquescent granular white powder, having a nauseous, bitter taste. Soluble 1 in 1 of water.

**Sodii Hypophosphis** (*Off.*).

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.).

A white granular deliquescent salt, with a bitter, nauseous taste. Soluble 1 in less than 2 of water.

**Syrupus Sodii Hypophosphitis. B.P.C.**

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.). Each drachm contains 1 grain of the Hypophosphite.

| | |
|---|---|
| Sodium Hypophosphite ... ... | 160 grains. |
| Distilled Water ... ... ... | 3 drachms. |

Dissolve, filter, wash the filter with 1 drachm of distilled water, and add

| | |
|---|---|
| Syrup, *q.s.* to ... ... ... | 1 pint. |

**yrupus Hypophosphitum Compositus, B.P.C.*** *Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

| | |
|---|---|
| Strychnine ... ... ... | 1 grain. |
| Hypophosphorous Acid, 30 per cent. | 2 drachms. |
| issolve and add to | |
| Calcium Hypophosphite ... ... | 80 grains. |
| Manganese Hypophosphite .. ... | 40 grains. |
| Potassium Hypophosphite .. ... | 40 grains. |
| Quinine Hypophosphite ... ... | 20 grains. |
| Distilled Water ... ... ... | 8 ounces. |
| issolve, filter, and add | |
| Strong Solution of Iron Hypophosphite ... ... ... ... | 1 ounce. |
| Refined Sugar ... ... ... | 14 ounces. |
| issolve without heat, then add | |
| Chloroform ... ... ... | 20 minims. |
| Alcohol (90 per cent.) ... ... | 40 minims. |
| hake, and lastly add | |
| Distilled Water *q.s.* to ... ... | 1 pint. |

In phthisis and like cases, hypophosphites raise the ervous power and improve the condition of the secreons.—L. i./61,518; B.M.J. i./80,472; P.J. 1882,603.

Phthisis, 57 out of 100 cases improved under their se. Considered the best general tonics in incipient onsumption and in the more advanced stages when the rogress of the disease has been arrested.—L. ii./79,311, 44. Further remarks.—B.M.J. ii./82,11.

In infantile diseases the use of the mixed hypophoshite salts is recommended.—B.M.J. i./80,472.

Of great use in cases of phthisis and pneumonia, sorption of effused products effected.—B.M.J. ii./91, 36.

Hypophosphite of lime the only one of value in ibercular disease.—L. i./92,519.

**Syr. Hypophos. Comp.** *(American).*

The following formula has been published, based on an nalysis; the product much resembles the advertised preparaon:—Iron Pyrophosphate (Sodio-citro-ferric Pyrophosphate) grains, Sodium Hypophosphite 45 grains, Strychnine (dislved with a drop or two of Diluted Sulphuric Acid) ½ grain, anganese Hypophosphite 15 grains, Quinine Sulphate grains, Distilled water 1 ounce. Heat gently to dissolve, ithout further addition of acid, and add to Syrup *q.s.* to eigh 16 ounces. *Dose.*—One teaspoonful.

**Wheat - Phosphates, Saccharated,** the soluble part of bran—the organic phosphates and cerealin (ferment of bran) combined with milk sugar—are specially useful in weakly and rickety children, and where digestion is impaired seem to aid the assimilation of food and even of such medicines as iron.

*Dose.*—Half a teaspoonful (increased) 2 or 3 times a day, may be taken as sugar with food.

## PHYSOSTIGMATIS SEMINA.

### Calabar Bean (*Off.*).

*Dose, in powder.*—1 to 4 grains (0·065 to 0·26 Gm.).

The poisonous properties of this drug, the ripe seed of *Physostigma venenosum*, chiefly due to Physostigmine, are said to be contained principally in the integument.

Preparations of Physostigma and its alkaloid Physostigmine, applied topically to the eyes, contract the pupil, and are antagonistic to atropine.

For tetanus the dose of extract given by mouth, rectum, or hypodermically, should be repeated, and increased every hour, so as to produce paralysis little short of arresting the breathing. For chorea also it is given in smaller doses. In paralysis it arrests muscular wasting and improves muscular power. In hemiplegia or paraplegia, give doses of $\frac{1}{30}$ to $\frac{1}{10}$ grain frequently.—R.

**Extractum Physostigmatis** (*Off.*).

*Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.), in cases of tetanus may be given every hour and increased.

An alcoholic extract containing three-fourths of its weight of milk sugar. Is one fourth its former strength.

**Tinctura Physostigmatis, B.P.C.**

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

Calabar Bean, in No. 40 powder, 1. Alcohol 90 per cent. *q.s.* to produce 5 (U.S. has 15 in 100).

Traumatic tetanus, cases of, treated with Calabar bean; ¼ grain of the extract every hour, then ⅙ grain every 2 hours, was successful.—L. i. 08, 434, 463.

Antagonistic to strychnine, *not* to be depended on as a remedy for poisoning by.—B.M.J. ii. 74, 805.

**Eseridina.** Eseridine.

*Dose.*—$\frac{1}{32}$ to $\frac{1}{16}$ grain (0·002 to 0·004 Gm.).

An alkaloid contained in Calabar bean, and may be obtained as a derivative of physostigmine. It occurs in minute white crystals, only slightly soluble in ether.

Has only one-sixth the toxic action of physostigmine, but exercises a tetanic action on the spinal cord, and produces abundant mucous discharges from the intestines. —L. i./89,396; P.J. 1888,345; M.C. May, 1890,131.

Therapeutically as a laxative.—Th. Gaz. 1889,688.

**Physostigmina, Physostigmine.**

*Syn.* ESERINE. *Dose.*—$\frac{1}{100}$ to $\frac{1}{50}$ grain (0·00065 to 0·0013 Gm.).

The alkaloid is in large colourless rectangular crystals, slightly soluble in water, freely in ether, soluble 1 in 180 of vaseline. Solution in castor oil, $\frac{1}{2}$ to 1 per cent. (by weight) is used.

Unguentum Physostigminæ R.O.H.

Physostigmine 0·25, Soft Paraffin 100; heat to dissolve.

**Physostigminæ Hydrobromidum, Physostigmine Hydrobromide.**

*Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain (0·0011 to 0·0032 Gm.).

A whitish amorphous powder, as met with in commerce, slightly hygroscopic, very soluble in water.

**Physostigminæ Salicylas, Physostigmine Salicylate, U.S.**

*Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain (0·0011 to 0·0032 Gm.).

In colourless, shining, needle-shaped, or short columnar crystals. A stable salt, soluble 1 in 140 of cold water, forming a colourless solution, which becomes red in a few days, but does not lose much in efficacy.

**Physostigminæ Sulphas, Physostigmine Sulphate.** *Syn.* ESERINE SULPHATE (*Off.*). P.G.

*Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain (0·001 to 0·0032 Gm.).

In yellowish white granular crystals, deliquescent and very soluble in water.

Guttæ Physostigminæ cum Cocaina, R.O.H.

Physostigmine Sulphate 0·25, and Cocaine Hydrochloride 1 to 100.

Injectio Physostigminæ Sulphatis Hypodermica, 4 grains to 1 ounce.

*Dose.*—1 to 4 minims (0·06 to 0·24 Cc.).

**Lamellæ Physostigminæ, Discs of Physostigmine.** (*Off.*).

Each contains $\frac{1}{1000}$ grain (0·065 milligramme) of Physostigmine Sulphate; also prepared containing $\frac{1}{250}$ grain and $\frac{1}{500}$ grain respectively, for ophthalmic use. Also $\frac{1}{1000}$ grain, combined with cocaine $\frac{1}{200}$ grain.

**Hypodermic Lamels** contain $\frac{1}{100}$ grain.

**Unguentum Hydrargyri Oxidi Flavi cum Physostigmina, R.O.H.**

Physostigmine 0·25, Soft Paraffin or Lanoline (anhydrous) 100; heat till dissolved, and add, when cold, Yellow Mercuric Oxide 1.

### *References.*

For chorea $\frac{1}{32}$ to $\frac{1}{12}$ grain or more of sulphate hypodermically; also in tetanus.—L. ii./75,187; P.J. 1889. 704; Th. Gaz. June,1888,386; L. i./98,1462.

For corneal ulcers in scrofula, solution of 2 grains to an ounce dropped into the eye; also in mydriasis and glaucoma.—Pr. xvi.294.

Presbyopia, useful for, $\frac{1}{500}$ to $\frac{1}{200}$ grain in solution dropped into the eye at a time.—M.T.G. i./76.174.

Use of salts as myotics.—B.M.J. ii./70.363.

Acute glaucoma, cases of, cured by 2 or 3 eserine discs applied daily.—B.M.J. ii./81.921; i./82,811.

In glaucoma Eserine is indicated, in iritis Atropine.—Pr. xxxi.321.

Eserine may also cause glaucoma.—L. i./84.99.

Traumatic tetanus, a case recovered under doses of $\frac{1}{6}$ grain of sulphate of Physostigmine every two hours.—Pr. xxxiii.255.

Eye diseases; a summary of those in which Physostigmine will do good.—Pr. xxxiv.104.

Ocular pressure increased by its use.—L. ii./85.183.

Use of eye-drops caused nausea and vomiting.—B.M.J. ii./87,510.

Tetanus following abortion treated by physostigmine hypodermically up to $\frac{1}{2}$ grain. Tolerance of the drug disappeared with the tetanus.—Th. Gaz. Dec. 1890,837.

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## PHYTOLACCIN.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.), in a pill with glycerin of tragacanth.

The powdered extractive, of a pale brown colour, obtained from poke root, *Phytolacca decandra.* Is nauseant and emetic, cathartic and alterative, used in syphilitic and rheumatic affections.

As a hepatic stimulant on the dog has considerable power; it also slightly stimulates the intestinal glands.—B.M.J. ii./78,912; Pr. xxiii.410.

**Tinctura Phytolaccæ.**—1 of root in 10 of Alcohol (45 per cent.).

*Dose.*—3 to 10 minims (0·18 to 0·6 Cc.).

Local application relieves painful mammæ, given internally at same time.—B.M.J. ii./87,844,921.

Orchitis relieved by 4- to 6-minim doses; is an antiscorbutic and antisyphilitic.—L. ii./85,1161.

## PICROTOXINUM.

## Picrotoxin (*Off.* and U.S.).

*Dose.*—$\frac{1}{100}$ to $\frac{1}{25}$ grain (0·00065 to 0·0026 Gm.).

A neutral crystalline principle obtained from the fruits of *Anamirta paniculata*—cocculus indicus, in colourless prismatic crystals, does not form salts. Nearly entirely soluble 1 in 330 of water, soluble 1 in 13 of 90 per cent. alcohol, freely in glacial acetic acid and caustic alkaline solutions. It requires about 500 parts of olive oil or lard to dissolve it, and 60 parts of glycerin even if heated to 212° F.; most of it also crystallizes out on cooling. Taste bitter. It has been used with good results in checking night-sweats, also employed in epilepsy and chronic alcoholism; overdoses cause stupor, delirium, and convulsions.

**Injectio Picrotoxini Hypodermica.**—1 in water 360, filtered.

*Dose.*—3 to 6 minims (0·18 to 0·35 Cc.).

**Liquor Picrotoxini Aceticus.**

Picrotoxin 1, Glacial Acetic Acid 30. Dissolve and add Distilled Water to 250. Filter.

*Dose.*—2 to 12 minims (0·12 to 0·7 Cc.) in water.

Is palatable and keeps in solution at all temperatures.—Pr. xxv.93; B.M.J. i./80,351.

**Pilula Picrotoxini.**

Picrotoxin $\frac{1}{60}$ grain, triturated with milk sugar and glycerin of tragacanth *q.s.*, to make one pill. Forms a suitable dose for checking night-sweating of phthisis taken for 2 or 3 nights successively, it is slightly cumulative, and may be discontinued and yet its effects last.

Epilepsy, useful for, especially when combined with anæmia and when the attacks occur at night.—St. Louis Clin. Rec. Oct. 1876.

Night-sweating of phthisis, 2 to 4 minims of the acetic solution or $\frac{1}{120}$ to $\frac{1}{60}$ grain in pill was very efficient; does not, like atropine or belladonna, produce dryness of the throat, or any unpleasant effect.—Pr. xxiii.241.

Antagonism between Picrotoxin and chloral-hydrate; $\frac{1}{20}$ grain sufficient for 30 grains of chloral.—B.M.J. i./75,506,541; L.H. 238.

Periodical sick-headaches, $\frac{1}{60}$ to $\frac{1}{20}$ grain by hypodermic injection, or $\frac{1}{30}$ to $\frac{1}{15}$ grain by mouth; and an ointment 10 grains to an ounce, is used for parasitic skin affections.—B.

Therapeutic uses, in checking night-sweats, &c.—B.M.J. i./80,96; L. ii./94,1023.

Clinical study of its anti-sudoritic powers.—L. ii. 95, 668.

Antidotism to morphine and chloroform asphyxia.—L. i./80,197; P.J. 1880,703; Th. Gaz. 1880,184.

**Pilocarpine**, p. 308.

# PILULÆ.

## Pills.

Medicines prepared in a pilular form are very portable, as they can be supplied to the patient in the smallest possible bulk in equally apportioned doses. The pill is a convenient mode of administering nauseous medicines, those that are insoluble in water and not easily suspended in it, and those drugs whose gradual action is required. A pill should be perfectly globular and firm, so as not to lose its shape, yet should not be too hard so as to be insoluble, or even slow in dissolving, unless the prescriber wishes it, as is sometimes the case; *e.g.*, 5 grains of exsiccated ferrous sulphate with one minim of syrup form a not very large but useful pill, which, by dissolving slowly, does not derange the stomach, whereas an equivalent dose of the salt in solution would, in many cases, act as an emetic. Again, dinner pills of aloes and nastic are prescribed to be made up with spirit by some physicians, who intend them to dissolve, not in the stomach, but in the bowels principally, where their peristaltic action is required. It is the duty of the dispenser not to deviate from using the excipient ordered, unless, for example, a fluid excipient is ordered along with extracts whose normal condition is too soft to begin with. If the choice of the excipient be left to the dispenser, as is often the case, he should choose one which will not be incompatible with, but, if possible, have a preservative action on the other ingredients of the pill, neither inconveniently increase its size nor interfere with the quick or prolonged action intended by the prescriber.

The Pill Mass, in the first place, should be firm and solid, yet possess tenacity and be plastic when worked. As, in building a wall, bricks and mortar are required in due proportion, so a good pill mass requires particles void of fluidity, with adhesive, semifluid substance to bind them together. Where there is but little fibrous or insoluble solid particles prescribed, the mass should be made as hard as possible and quickly rolled out, else the pills will not keep their shape. Most vegetable powders contain fibrous matter and have their adhesive properties while dry in a latent condition, these merely require a suitable fluid added to develop their tenacity and enable them to be rolled into pills. As a powerful solvent and preservative, glycerin, diluted with one-half its volume of alcohol, used discreetly, is a good excipient for such powders. If used in the pure state in the slightest excess, glycerin, being slightly hygroscopic, causes the pills in time to have an unsightly, moist appearance, whereas, if diluted with alcohol, the alcohol readily evaporates from them. Glycerin in any form should not be used as an excipient for hygroscopic drugs, such as soft extracts, squills, aloes, &c. For these mucilage of acacia or syrup is preferred. For insoluble metallic salts, glycerin requires additional adhesiveness, for such and a number of other drugs it is best used in the form of glycerin of tragacanth (*v. p.* 160), adding, if necessary, a small quantity of powdered acacia or althæa to give firmness to the pill. The use of glycerin should be avoided in pills intended to be varnished; in place of glycerin of tragacanth, use for these a little of equal parts acacia and tragacanth, with syrup *q.s.*

In the official Pill masses treacle is now replaced by **Syrup of Glucose** (*Off.*) prepared by heating Glucose (syrupy) 1, with Simple Syrup 2 (by weight). This is more neutral than treacle, the latter in commerce contains a quantity of potash salts. **Glucantha,** *v p.* 160.

Powders to be formed into pills should be as finely comminuted as possible; any poisonous alkaloid or very active drug should be well triturated with some less active powder, or, if the formula contains no other powder, with a little milk sugar, before mixing with the other ingredients. Having mixed the powders and diffused any essential oil evenly through them, the extracts and other excipients should be added, the whole well pounded into a mass, rolled into pills, and dusted over with lycopodium, powdered starch, or French chalk, in the usual manner.

But the public now require pills to be made as tasteless and as small as possible. A one-grain pill is much preferred to a 5-grain one; yet, unless specially ordered otherwise, when the ingredients prescribed for each pill weigh less than one grain, it is a rule with dispensers, for uniformity's sake, to triturate the ingredients with milk sugar and glycerin of tragacanth or acacia and syrup *q.s.* to make each pill weigh one grain. These excipients are generally as neutral as any that can be chosen.

As a means of rendering pills tasteless, silvering or gilding is giving place to covering them with solution of sandarach, gelatin, or pearl-coating them with French chalk and gum, or sugar-coating them.

**Varnishing** Pills.—The writer's plan of using a sandarach solution—1 part sandarach in 1 part of absolute alcohol (= Pill Varnish: Pharm. Jour. 1870,414)—may be done extemporaneously. The pills should be perfectly made—well mixed, and free from contamination and powder, as every imperfection will show through the transparent coating. Having placed them in a covered pot, a few drops of the sandarach solution are poured in and diffused equally over the pills by a few circular movements of the pot held in one hand. They are then poured out on a clean plate and detached from each other. After 4 minutes each one is moved, and in 10 minutes all are moved and again shaken. In about 20 minutes they will be quite dry, ıt are better allowed to be exposed to the air an hour or more.

In **coating** Pills with **Gelatin,** they should be free om powder, and not too dry. A solution is prepared by ssolving 1 part of gelatin in 4 parts of water, straining hilst hot through fine muslin, allowing to cool and -heating to get rid of air bubbles. The pills are stuck ı the points of fine needles and dipped into the solution, pt hot by a water bath; as they are taken out, each needle slowly revolved to make the coating even on the pill, e reverse end of the needle is then stuck into a sheet of rk or pincushion, and the needles are left in this upright sition till the pills are dry, which is usually in about alf an hour.

In **pearl-coating** Pills they should be made firm and ee from powder: they are first evenly covered with a ucilage of tragacanth 4 grains to 1 ounce with half a rachm of syrup added; this is done by shaking them ı a covered pot with a few drops of the mucilage, they e then thrown into another covered pot having a concave bottom and containing some finely powdered French halk; after gently rotating them in this for a few seconds ey are turned into a third clean and similar pot and tated slowly; the excess of powder is then blown off, e lid placed on the pot, and they are finished by shaking em quickly and regularly round until they become even nd polished.

The **sugar-coating** of Pills is a confectioner's art. t can only be done successfully in large quantities, and he pills must be hard and dry; they are placed in a emispherical metallic pan kept warm, while making centric revolutions, and are alternately moistened with yrup, and dusted with finely-powdered sugar, till dry nd uniformly covered.

**Keratin-coating** of Pills is performed for the urpose of rendering them insoluble in the gastric juice, so hat they pass into the intestine unchanged. Their action thus localised. For this purpose, only oily excipients hould be used, and the pills covered with a thin layer of acao-butter previous to applying the **Keratin Solution.** The latter is made by removing from horn shavings ll that is soluble in pepsin and diluted hydrochloric acid. he residue dissolved in weak alcoholic solution of ammonia r acetic acid, and evaporated to a mucilaginous consistence, forms the gum-like liquid, keratin solution. The pills require three coatings with this liquid, and so prepared they are freely soluble in the alkaline liquid in the intestine; and, although insoluble in the acid gastric juice, their coating is partially soluble in acetic and citric acids, which should therefore not be taken at the same time.—P.J. 1884,422; 1889,1035.

Should be employed for pills containing substances which irritate gastric mucous membrane, neutralise acidity of stomach, or are desired to act on intestinal membrane without action on stomach, such as those intended to destroy worms.—L. ii./90,838.

A suitable coating for carbolic acid in pills to relieve diarrhœa.—L. ii./93,1305.

**Keratin.** A pale brown amorphous powder. Is prepared as above from quill shavings and acetic acid, and evaporated to dryness. It requires to be redissolved in ammonia or acetic acid for use.

**Salol Varnish** for pills intended to act in intestines only, *v.p.*37.

In all pharmacies it is found convenient to keep a number of pills besides those of B.P. ready prepared. A list of those in general request in London is contained in the index.

**Cachets** are lenticular capsules of wafer paper, consisting of two watch-glass shaped halves, of various sizes, which adhere on moistening the margins.

They are useful for enclosing nauseous or insoluble medicines, drugs that do not yield all their activity to any solvent, and those whose suspension in fluids is difficult or inaccurate owing to non-diffusibility or decomposition, such as rhubarb, cascara, bismuth, pepsin, quinine, antipyrine, antifebrin, salicin, sodium salicylate, salol, sulphonal, tetronal, metaldehyde, naphthalene, naphthol, saccharated ferrous carbonate. They should be dipped in water immediately before swallowing.

**Empty Gelatin Capsules** are short tubes closed at one end, telescoping into one another, used for a similar purpose.

A pill, cachet, or, in fact, any medicine, should always be followed by a draught of water, to carry it quickly through the œsophagus.

**bellæ, Tablets** with **Chocolate.**
. Theobroma, *p.*455, and Index, *p.*617.

**blets, Compressed.** *V* List in Index of those mostly in demand, *p.*648. For others refer to Manufacturers' Lists.

**blets** for **Hypodermic Injection.**
, Index, *p* 649.

## PINUS SYLVESTRIS.

**Scotch Pine**.—*Syn.* SCOTCH FIR.

rom the wood of this much of the European oleo-n, common turpentine, oil of turpentine,* and tar are duced. From its leaves also are prepared an extract, atile oil and wool, at certain establishments in Ger-ay, where a system of treatment of rheumatism and

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From Oil of Turpentine, which may be B.P. "rectified ecessary"—it is then commonly known as Camphine - prepared :—

**psules,** 5 minims (**0·3 Cc.**) each. *Dose.*—1 or more.

**nimentum Terebinthinæ** (*Off.*).
il of Turpentine 26, Camphor 2. Dissolve, and emulsify adding gradually to Soft Soap 3, dissolved in Distilled ater 4. Then add Distilled Water *q.s.* to 40.

**nimentum Terebinthinæ Aceticum** (*Off.*).
il of Turpentine 4, Glacial Acetic Acid 1, Liniment of nphor 4. Represents St. John Long's liniment and other trums.

**"Sanitas" Fluid,** the aqueous solution resulting from action of water upon air-oxidised turpentine, containing its active principles hydrogen peroxide, thymol, a soluble nphor, and some camphoric acid. It is an oxidising agent l an antiseptic, is non-poisonous, does not stain linen, is ful for household disinfection and for surgical opera-ns. **Toilet "Sanitas"** is similar, with an agreeable fume. **"Sanitas" Oil** is an air-oxidised turpentine, oxidation being conducted in the presence of water; it has . Gr. 0·95. An organic peroxide is present in it, which gives n oxidising strength equal to that of a ten-volume solution hydrogen peroxide. As an antiseptic it may be mixed with vdust and sprinkled about, or diluted with alcohol or methy-ed spirit and sprayed in a room, or diluted 1 in 8 to 20 of olive for various surgical dressings and affections of the skin. xed with powdered acacia, then boldly diluted with water l well shaken, it forms a "Sanitas" emulsion which can be uted further *ad lib.* for various purposes. **Soluble Sanitas" Oil** emulsifies with water, and is also miscible with s, fats, and petroleum bases. Is used of strength 1 in 20 to of water as a disinfectant, and in the bath.

other diseases by baths, &c., known as the Pine Cure, is followed.

**Fir Wool, or Fir Wool Wadding,** sold in sheets, is now a cotton wool, impregnated with the above; i has the faint, agreeable odour of the Pine-leaf, and i manufactured into blankets, jackets, spencers, stockings, &c. A Liquor is also obtained, which is employed fo baths. On evaporation this yields

**Extractum Pini Sylvestris.** Fir-Wool Extract.

A dark brown liquid of the consistence of treacle, readily soluble in water and having a faint pine odour; 2 to 4 ounces are added to a 30-gallon warm bath for rheumatism.

**Oleum Pini Sylvestris.** (Fir-Wool Oil.)

In the preparation of the true Fir Wool this was obtained by distillation from the pine-leaf as a colourless oil with the agreeable odour of the fresh pine-leaf. Sp. Gr. 0·868. For rheumatism applied by rubbing, the affected part being afterwards covered with warmed Fir-wool wadding; it was also added in quantities of a drachm or more to warm baths for the same disease. (Now scarce.)

**Vapor Olei Pini Sylvestris** (B.P. 1885 and **T.H.**).

Fir-Wool Oil 40 minims, Light Magnesium Carbonate 20 grains, Water to 1 ounce. One drachm to a pint of water at 140° F. forms a mild stimulant inhalation in chronic laryngitis.

**Oleum Pini,** Oil of Pine (*Off.*)

*Dose.*—½ to 3 minims (0·03 to 0·18 Cc.).

The oil of the leaf of *Pinus Pumilio* possesses more agreeable odour and taste than the last. Is sold under the fancy names of Pinol and Pumiline, and is used for inhalations. Jujubes, pastilles, and soaps are also sold, medicated with the oil.—L. i, '88,463.

**Sanitary Wood Wool,** and **Wood Wool Wadding** consist of finely-comminuted pine wood, rendered antiseptic with sublimate; they are very absorbent, and are now much used for dressing wounds, especially in the form of **Wood Wool Tissue**; and the wadding is formed into "**towelettes**" for ladies' use in menstruation and hæmorrhage, and into **accouchement sheets** and **gonorrhœa bags**; triangular pads are also made (bapkins) to assist in the anliness and comfort of infants, as well as mattresses use in cases of cholera and other diseases with infec- s discharges.—L. ii./87,306,343 ; B.M.J. ii./87,1044.

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## PIPERAZINA.

**perazine.**—*Formerly regarded as* ETHYLENIMINE, DIETHYLENE-DIAMINE, 'DI-SPERMINE.'

*Dose.* 4 to 10 grains (0·26 to 0·65 Gm.), or grains daily.

An organic base formed by the action of sodium glycol ethylene-diamine hydrochloride ; in small colourless iquescent crystals, non-caustic, but with strongly aline reaction, saline taste and faint odour, soluble out 4 in 7 of water. Melts at 104 to 107 C., and ls at 145 C. Dissolves twelve times as much c acid as lithium carbonate, and the urate formed is uble in much less water. Even in presence of excess uric acid the neutral salt only is formed. Forms a npound with sodium-theobromine like Diuretin.

Given internally, is a powerful solvent of uric acid and oluble urates in the system, and is successfully used as remedy in cases of uric acid diathesis, such as gout, umatism, and urinary calculi ; it is also reputed to ve an aphrodisiac effect. It is not destroyed in the ganism, but is excreted in the urine unchanged and nbined with uric acid.

Having no irritant action, may be used in 1 or 2 per it. solution injected into the bladder as a solvent for c acid calculi. Also injected hypodermically.—P.J. 90,557 ; 1891,664 ; 1892,812 ; Pr. xlvii.57 ; xlviii. 9 ; li.134 ; B.M.J.E. ii./90,22 ; M.C. Oct. 92,65.

**ffervescent Piperazine** contains 5 grains in a drachm *Dose.*—1 drachm (4 Gm.)

**fervescent Piperazine with Phenocoll.**

*Dose.*—1 drachm (4 Gm.).

Contains 5 grains of each in a drachm. Useful in inful rheumatic affections.

**iperazine Water, Aërated.**

This contains 5 grains to the average tumblerful, or grains to a syphon, and is a pleasant and efficacious ode of administration.

**Tablets of Piperazine.**

Contain 5 and 15 grains (0·32 Gm. and 1 Gm. One of the latter dissolved in water forms a day medication.

Beneficial action in gout not due to solvent action o material of gouty concretions.—L. ii./92,131; B.M.J ii./92,64; i./96,1432.

Increases quantity of urine, diminishing its Sp. G and acidity; combines with uric acid, not dissolves i Cases of gout and gravel greatly improved.—B.M.J.E ii./93,20.

Bids fair to supplant lithia for gout.—Pr. liii.265.

It inhibits, in diabetics, the transformation of glycoge into sugar.—B.M.J.E. ii./93,72.

Complete success as a remedy for renal colic. L. ii./93,1661; B.M.J.E. i. 93,75.

Physiological researches on.—Guy's Hosp. Rep. '94.67

Strong recommendation for its use in gout —B.M.J ii./99,1792.

**Lycetol.**—DI-METHYL-PIPERAZINE TARTRATE.

*Dose.*—4 to 10 grains (0·26 to 0·65 Gm.).

Has equal solvent action on uric acid with piperazine little action on human organism. Causes increase o diuresis, and reduces Sp. Gr. of urine.—P.J. 1894,621

Lycetol a valuable help in the treatment of gou and rheumatism.—L. ii./97,39; i./00 136.

Injection for removal of gouty tophi, $\frac{3}{4}$ grain i 8 minims of distilled water.—Therap. 1900,56.

**Lysidine.**

*Dose.*—10 to 30 minims (0·6 to 1·8 Cc.).

A 50 per cent. solution of **Ethylene-Ethenyl diamine**; is a colourless alkaline liquid, recommende in acute gout and uric acid diathesis generally.—P.J 1894,355; 1895,1191; Am.M.S.B. 1894, 1447.

Piperazine and Lysidine added to uric-acid-depositing urine, hinder deposit, and they both act by rendering the blood more capable of removing the acid and s increase elimination.—B.M.J. ii./96,901; P.J. i./97,89

**Lysidinæ Tartras Acidus**, Lysidine Bitartrate.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

In white granular crystalline powder, with a salin taste, non-deliquescent and readily soluble in water.

**donal, Piperazine Quinate** (Patented.)

Daily dose during pain 80 grains (5 Gm.), less in ronic cases.

In white crystalline granules, used as a uric acid vent in gout and allied affections P J i,'00,57; '00 213,189.

**rotropine.** — *Syns.* HEXAMETHYLENE TETRAMINE, AMINOFORM.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

In colourless granular crystals, with an alkaline re- ion; easily soluble in water, less so in alcohol, and nost insoluble in ether. A valuable diuretic and lvent of uric acid concretions.

Valuable as a urinary antiseptic.—L. i.'01,174.

Urine antiseptic, should be given in typhoid, lessens ance of cystitis.—L. i,'00,797; B.M.J. i/00,1876.

**Tablets**, 3, 5, and $7\frac{1}{2}$ grains, and Urotropine fervescent (Varalettes) 4 grains.

**ainotropine,** Urotropine Quinate, Quinotropine.

*Dose.*—Up to 90 grains (6 Gm.) daily.

A combination of Quinic Acid 73 per cent and rotropine 27 per cent. Used as a uric acid solvent.

**annopine.**—*Syn.* TANNOL.

A compound of tannin and urotropin, a brown powder, tiseptic and astringent, for urinary ailments.—B.M.J.E. '98,47.

Insoluble in water but soluble in dilute alkaline lutions.—B & C D i '99,185; P.J i.'99,336.

## PIPERINUM.

## Piperin, U.S.

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.).

A crystalline principle obtained from black and long pper, the fruits of *Piper nigrum* and *Piper longum*, in ge colourless prisms, which turn yellow with keeping. soluble in water, soluble in alcohol, and less soluble in her. Almost tasteless, but its spirituous solution has peppery taste. The pungency of pepper is not due to perin. It has been used in conjunction with eulyptol for neuroses and congestion of the spleen.

Febrifuge action is energetic, it neither changes, retards, nor suppresses any secretion or excretion.—M.T.G. ii./60,18.

Ague cured by 18 grains daily.—B.M.J. ii./86,449.

## PISCIDIA.

### Jamaica Dogwood.

The bark of the root of this tree, *Piscidia erythrina*, is employed in the West Indies to intoxicate fish. In America it is employed to relieve toothache, and as a general sedative; it is said to be specially useful in allaying the cough of bronchitis and phthisis; does not interfere with expectoration, or lower the vital force.—P.J. 1844,76,111. It is said to be an effective substitute for opium, to allay pain, spasm, and nervous excitement, and to produce sleep. It dilates the pupil.

**Extractum Piscidiæ.** An alcoholic extract.

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.).

**Extractum Piscidiæ Liquidum.**

*Dose.*—20 minims to 2 drachms (1·2 to 7 Cc.).

One drachm equals 1 drachm of the bark. Is a good narcotic, does not cause headache or constipation.—B.M.J. ii./83,903; P.J. 1880,1014,162.

## PIX LIQUIDA.

**Tar** (*Off.*). *Dose.*—2 to 10 grains (0·13 to 0·65 Gm.) in a pill with lycopodium, or in perles.

As a diuretic and in bronchial catarrh and winter cough, it is very useful.—B.M.J. ii./75,380,498.

On account of their antiseptic properties, both Wood and Coal Tar and preparations of them have been used for surgical dressings. The former yields Creosote, which is a much more powerful although a less manageable germicide than the carbolic acid or cresylic acid contained in the latter. During the late American war oakum (old tarred rope carded) was much employed as an absorbent antiseptic wound-dressing; but generally its fibres are too coarse and harsh; yet, under the name of **Tenax**, a fine carded oakum is sold in 1-lb. packets.

**Marine Lint,** also in 1-lb. packets, is tow impregnated with fresh tar; is a cheap and useful antiseptic dressing.—B.M.J. i./80,476.

**qua Picis.** **Tar Water.**—*Syn.* Aqua Picea; Eau de Goudron (Codex 1884).

Tar 1, Pine Sawdust 3. Mix and add Distilled Water 0. Macerate, with frequent shaking, for 24 hours, d filter. *Dose.*—5 to 10 ounces (140 to 280 Cc.).

**iquor Picis Carbonis et Ligni** and **Liquor Picis Ligni,** *v.p.*159.

**leum Picis Rectificatum,** **Light Oil of Tar.** Two distilled oils of Wood Tar are met with in comerce, one light, known also as Rectified Spirit of Tar, ving Sp. Gr. 0·853 to 0·867, is colourless when fresh, t becomes sherry-coloured with age; this is a most werful deodoriser, and is used for making Coster's ste *v.p.*301. The other is an opaque black dense oil, avier than water.

**erles of Tar.**

*Dose.*—1 or 2. The Tar is enclosed in small obular capsules, containing about 2½ grains in each.

**ilula Picis Liquidæ.**

*Dose.*—3 to 6 grains (0·2 to 0·4 Gm.).

Tar 2, Lycopodium 1. Useful for winter cough.—.M.J. i./75,498.

**yrupus Picis Liquidæ,** **Syrup of Tar, U.S., B.P.C.** *Dose.*—1 to 2 drachms (3·5 to 7 Cc.).

Tar 75 (previously mixed with white sand 100 and ashed with cold water 150, during 12 hours), stir with oiling Water 400 for 15 minutes, add Glycerin 100, d after 24 hours filter, dissolve Sugar 800 in filtrate ith gentle heat, cool, strain, and add Water to 1,000.

Taste may be covered by addition of an equal quantity f syrup of wild cherry (*v.p.*407); $\frac{1}{33}$ to $\frac{1}{16}$ grain of pomorphine hydrochloride may also be added to each ose. Useful in chronic bronchitis and winter cough.—.M.J. i./88,463; M.P.C. i./89,213.

**yrupus Picis cum Codeina. Ph. Helv.**

Contains Codeine 1, with Proof Spirit *q.s.* in 1000 f Syrup of Tar.

*Dose.*—½ to 2 drachms (1·8 to 7 Cc.).

**Unguentum Picis Liquidæ.** **Tar Ointment** (*Off.*).

Tar 5, Yellow Beeswax 2. Useful in psoriasis.

For use in skin diseases, four special kinds of Tar, imorted from Germany, are met with. Unlike common

Tar, they are perfectly liquid. They are also known as empyreumatic or pyroligneous oils, viz.:—

**Oleum Betulæ Pyroligneum.** Birch Tar.

**Oleum Cadinum.** Oil of Cade (*Off.*).—*Syn.* **Juniper Tar Oil. Oleum Juniperi Pyroligneum. Huile de Cade.** From *Juniperus Oxycedrus* and some other species. Commercially, is said now to be made by distilling Oils of Turpentine and Juniper with chips and twigs of Juniper.

**Unguentum Olei Cadini.** *Adopted by G.H.*

Melt Yellow Beeswax 1, add Huile de Cade 1, and stir till cold. Used in psoriasis and dry eczema. Similar ointments may be made of the other Tars, the proportions may be varied and lard may be used as a diluent if a weak ointment be required.

Chronic eczema, 2 cases cured by an ointment of Oil of Cade 1, Vaseline 4.—B.M.J. ii./83,817.

An ointment of Glycerin of Starch 100, Oil of Cade 100, Green Soap (*c.p.*184) 5, recommended for psoriasis. —Pr. xli.222.

**Oleum Fagi Pyroligneum,** Beech Tar. On the Continent used as a source of creosote.

**Linimentum Picis** (Lassar).

Beech Tar 4, Birch Tar 3, Olive Oil 1, Alcohol (70 per cent.) 1.

**Oleum Rusci Pyroligneum.** Said to be obtained from **Butcher's Broom.** Is really a Birch Tar, identical with *Oleum Betulæ Pyroligneum.*

These Tars have similar properties for forming ointments for skin diseases; their odour is less disagreeable, they are cleaner, and they are thought to be more efficacious than common Tar. The Birch Tar is esteemed on account of its peculiar odour, well known in Russia leather. Oleum Cadinum (Huile de Cade) is the most used. They are all soluble in oils, fats, wax, unctuous petroleum, and chloroform, but do not perfectly blend with alcohol.

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## PODOPHYLLIN.

*Syn.* Podophylli Resina (*Off.*).

*Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.) as a cholagogue and aperient, $\frac{1}{30}$ to $\frac{1}{15}$ (0·0022 to 0·0043 Gm.), frequently as an alterative.

The resin obtained from the dried rhizome of *Podophyllum peltatum*—American mandrake, or May apple, sometimes called vegetable mercury, as it is a powerful biliary purgative. It is a pale greenish-brown amorphous powder, with an herby odour and acrid taste, soluble in aqueous ammonia, almost entirely soluble in 90 % alcohol, leaving undissolved inorganic impurity, with, it is said, traces of berberine hydrochloride.

The crude resin may be divided by treatment with ether, which dissolves a portion and leaves another which is soluble in alcohol but not in ether. The former has a bright yellow colour, an herby odour, and acrid taste; the latter has a pale brown colour, is odourless, and has a less acrid taste than the other. The writer found little difference in their purgative action. The brown resin was more prompt.—Pr. xxviii.54; P.J. 1877,456. The crude resin is a slow and rather uncertain purgative, requiring from 12 to 20 hours to act.

**Podophylli Indici Rhizoma** and **Podophylli Indici Resina, I.C. Add.**, *v.p.*xxviii. From *P. Emodi*. This resin is richer in Podophyllotoxin than than that from *P. peltatum*.

In a later research by Podwissotzki, he obtains from a chloroformic extract of the root an amorphous principle, which is free from the fatty and colouring matters of the official resin. This he names **Podophyllotoxin**; it is more certain in its action than Podophyllin and is given in dose of $\frac{1}{10}$ to $\frac{1}{3}$ grain, to children $\frac{1}{80}$ to $\frac{1}{30}$ grain. It is best administered by dissolving 1 grain in 2 drachms of 90 % alcohol. Dose, 2 to 10 drops in a teaspoonful of syrup.—P.J. 1882, 623,1011; L. ii./81,568; M.R. 1883,14. **Podophyllotoxin** is in its turn capable of being separated into a bitter crystalline acid (Picropodophyllic Acid), a bitter, crystalline neutral body (Picropodophyllin), the latter of which is the more medicinally active, and an amorphous substance (Podophyllic Acid) which is inert. Physiological action of crystallized podophyllotoxin; is a purgative without any ensuing binding effect.—P.M.J.E.i./91,15; L.ii./94,211.

**Pilula Podophyllin.**

$\frac{1}{30}$, $\frac{1}{4}$ or $\frac{1}{2}$ grain of the resin in each, well triturated with milk sugar, acacia, and syrup *q.s.*, to one pill.

**Pilula Podophyllin Composita, U.C.H.**

Podophyllin $\frac{1}{4}$ grain, Barbados Aloes 1 grain, Capsicum $\frac{1}{2}$ grain, Green Extract of Belladonna $\frac{1}{4}$ grain, Excipient *q.s.* To make one pill. One or two form a biliary aperient dose.

**Pilula Podophyllin et Quininæ.**

Quinine Sulphate 1 grain, Podophyllin $\frac{1}{12}$ grain, Milk Sugar $\frac{1}{12}$ grain, Green Extract of Belladonna $\frac{1}{8}$ grain, Extract of Socotrine Aloes 1 grain. To make one pill, or, if the quantities be taken in grammes, 15 pills. In making these pills, let the podophyllin be well triturated with the milk sugar and then with the quinine. They are useful 'dinner pills.'

**Tinctura Podophylli** (*Off.*).

Podophyllin 1 grain, Alcohol (90 %), 30 minims.

Dissolve and filter. *Off. dose.*—5 to 15 minims (0·3 to 0·09 Cc.).

In dose of 2 to 4 drops in tea or coffee, taken night and morning, is useful in sick-headache and biliousness, where the bowels and liver are sluggish in worried and overworked patients, and in chronic diarrhœa with cutting pains and high-coloured motions. Also relieves constipation with clay-coloured motions following diarrhœa of infants, 1 or 2 drops on sugar twice or three times a day.—R. Its taste is acrid and disagreeable.

**Tinctura Podophyllin Ammoniata.**

Podophyllin 1, Aromatic Spirit of Ammonia 50. Dissolve, and after standing, decant.

*Dose.*—2 to 6 minims (0·12 to 0·35 Cc.) as an alterative, 10 to 20 minims (0·6 to 1·2 Cc.) as a purgative and cholagogue, taken in a wineglassful of water or milk. Good Podophyllin dissolves almost entirely in spirit of sal volatile. This tincture has an advantage over the other tinctures of Podophyllin of forming a solution from which, on addition to water, the resin does not separate. The sal volatile also acts as a corrective.

A powerful hepatic stimulant, and in large doses a violent purgative. It is a very powerful stimulant of the liver of the dog. During the increased secretion of bile, the percentage of the special bile solids is not diminished; if the dose be too large, the secretion of bile is not increased; it is a powerful intestinal irritant.—Pr. xxiii.335; B.M.J. Rep. 1878,4; B.M.J. i./79.177.

Résumé of its medical properties, as a purgative and cholagogue, used in syphilis, rheumatism, and scrofula. —M.T.G. ii./70,647.

For diarrhœa in children due to defective secretion, $\frac{1}{60}$ to $\frac{1}{35}$ grain every 5 hours. Is not followed by constipation.—B.M.J.E. ii./90,23.

## POTASSIUM.

**Potassa cum Calce, P.L.**, consists of equal parts, in powder, of caustic potash and quicklime; it is also sold moulded into pencils. For **Vienna Paste**, *v.p.*433.

**Potassii Bichromas**, Potassium Bichromate. (*Off.*).

*Dose.*—$\frac{1}{10}$ to $\frac{1}{5}$ grain (0·0065 to 0·013 Gm.), in pill with Kaolin Ointment, for dyspepsia and gastric ulcer.—L. i. 94,923; ii. 95,671.

**Potassii Cobalto-nitris**, Potassium Cobalto-nitrite.

*Dose.*—$\frac{1}{2}$ grain (0·032 Gm.) every 2 or 4 hours.

A greenish yellow crystalline powder, slightly soluble in water. Is said to produce less discomfort than other nitrites, and to relieve arterial tension. Relieves the dyspnœa in uræmia and asthma.—Pr. xli.457; P.J. 1888, 347; Th. Gaz. Oct. 1888,635.

**Potassii Cyanidum**, Potassium Cyanide.

Official as a test, in fused masses. No dose is mentioned, but $\frac{1}{12}$ to $\frac{1}{4}$ grain (0·0054 to 0·016 Gm.), of the crystallised salt may be given; a solution of one grain of the crystals in 23 minims ($20\frac{12}{13}$ grain-measures) of distilled water is equivalent in strength to Acidum Hydrocyanicum Dilutum (2 per cent.), in place of which it is sometimes used.

**Potassii Nitras**, Potassium Nitrate (*Off.*). *Syn.* NITRE. *Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

**Fumus Potassii Nitratis (Nitrated Papers), T.H.P.; Charta Nitrata.**

Nos. I. II. and III. are made by saturating white blotting-paper with solutions of Nitre, 30, 45, or 60 grains respectively in an ounce, and drying. No. III. is the strongest. Burnt to inhale the fumes for asthma.

**Asthmatic Pastilles** are prepared in cones containing a mixture of chlorate and nitrate of potassium.

**Ozone Papers** are similar in composition.

In addition to the above, various powders and cigarettes are sold as nostrums, the fumes of which while burning are employed to relieve attacks of asthma, of which Nitre is a constant and Stramonium is generally an ingredient; Himrod's Cure, Bliss's Cure, and the Green Mountain Cure may be imitated by the following:—

**Pulvis Lobeliæ Compositus.**

Potassium Nitrate 240, Boiling Distilled Water 240. Dissolve and add to Lobelia in powder, Stramonium Leaves in powder, Black Tea in powder, 240 of each. Mix well, dry, and add Oil of Anise 1. The fumes of half a teaspoonful or more, burnt on a plate, to be inhaled six or eight times a day, and the bedroom fumigated with the same. (G.H. has Anise Fruit, *vice* Black Tea and Oil of Anise.)

**Folia Stramonii Nitrata**, *Arg.*

Stramonium Leaves 2, moistened with Potassium Nitrate 1 dissolved in Water 3, and dried.

**Ophthalmic discs** contain $\frac{1}{250}$ grain (0·00026 Gm.) potassium nitrate combined with gelatin.

**Potassii Permanganas**, *v.p.*324.

**Potassii Phosphas**, Potassium Phosphate. Dipotassic Hydric Phosphate.

A deliquescent granular powder; is given as an alterative in phthisis and urinary affections. *Dose.*—1 to 10 grains (0·065 to 0·65 Gm.).

**Potassii Salicylas**, *v.p.*33.

**Potassium Silicate**, solution of, *v.p.*135.

**Potassii Succinas**, Potassium Succinate.

A deliquescent powder; has been used in doses of 5 to 10 grains to control hæmorrhage. **Ferri Succinas**, Ferric Succinate, a reddish-brown insoluble powder, removes biliary calculi and relieves hepatic colic.

**Potassii Telluras**, Potassium Tellurate.

*Dose.*—$\frac{1}{3}$ grain (0·02 Gm.) in pill once daily.

Arrested or greatly reduced night-sweats of phthisis; day-sweats required rather larger doses. Indigestion only followed continuance of 1 grain daily.—L. ii. 90, 365; i./92,657; Pr. xlv.373; P.J. 1890,164.

## PRUNI VIRGINIANÆ CORTEX.

### Virginian Prune Bark (*Off.*).

*Syn.*—WILD CHERRY BARK, U.S.

The bark of *Prunus serotina* contains amygdaline; on distillation with water it yields an essential oil rich in hydrocyanic acid; on simply moistening the bark with water, the odour of the latter is developed. It possesses bitter tonic properties, with more or less sedative ones. The preparations in use — the tincture and syrup—form agreeably flavoured medicines, which are used to palliate the cough in phthisis and bronchitis, in palpitation of the heart, and debility, particularly of the digestive organs.—L. i./So,97.

**Syrupus Pruni Virginianæ** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Virginian Prune Bark, in No. 20 powder, 3; Sugar, n coarse powder, 15; Glycerin 1·25, Distilled Water *q.s.* to 20.

Moisten the powder with water and macerate for 24 hours in a closed vessel, then percolate, adding more water until 9 of liquid are obtained, in which dissolve the sugar without heat. Add the glycerin, strain, and pour distilled water over the strainer, *q.s.* to 20.

**Tinctura Pruni Virginianæ** (*Off.*).

*Dose.*—30 to 60 minims (1·8 to 3·5 Cc.).

Virginian Prune Bark, in powder, 8; Distilled Water 15. Macerate 24 hours in a closed vessel, and add alcohol (90 per cent.), 25. Macerate 7 days more, express and filter.

**Prunin.**—*Syn.* CERASIN.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

Is prepared by evaporating the tincture and powdering the extract. It is pale brown in colour, and has a characteristic odour.

## PULSATILLA.

### Pulsatilla.

*Pulsatilla nigricans*, Störck, or *Anemone pratensis*, *L.* and *Pulsatilla vulgaris*, Mill, or *A. Pulsatilla*, *L.* (these two plants are by some botanists considered varieties of one species), pasque flower, meadow anemone or windflower.

The flowering herb imported principally from Germany.

### **Anemonin.** Pulsatilla Camphor.

*Dose.*—$\frac{1}{60}$ to $\frac{1}{12}$ grain (0·001 to 0·0054 Gm.) or more, well triturated with milk sugar in a pill.

In neutral white volatile prismatic crystals, easily crumbled, sparingly soluble in water or ether, more soluble in alcohol, chloroform, and hydrochloric acid. Almost tasteless, but if heated is acrid and irritating. It is poisonous—5 to 10 grains caused death of rabbits. Has been given for dysmenorrhœa and epididymitis. —Pr. xxi.377. Chemical properties.—P.J. 1892,1005.

It irritates, then paralyzes, the respiratory centre, and diminishes cardiac activity and voluntary movements by acting on the spinal nerve centres. Useful in bronchitis, convulsive cough, and asthma, in doses of 0·05 to 0·1 gramme ($\frac{3}{4}$ to $1\frac{1}{2}$ grains) daily, taken in two doses.—M.P.C. ii./86,113, *ex* L'Union Médicale.

Anemonin, the best analgesic for most painful affections of uterus, in dose of $\frac{1}{8}$ grain.—Th. Gaz. 1890, 475.

Does not represent the full activity of the plant.—Pr. lxi.74.

### **Tinctura Pulsatillæ, B.P.C.**

Pulsatilla, in No. 20 powder, 1, Alcohol 60 per cent. *q.s.* to make 10 by percolation.

*Dose.*—1 to 5 minims (0·06 to 0·3 Cc.) or more; for amenorrhœa or dysmenorrhœa, a minim every hour or two hours, a day or two before periods.

Pulsatilla paralyzes the medulla oblongata and spinal cord, and excites irritation of the digestive tract and the kidneys.—Clarus in Binz.

The tincture is praised as a remedy for spasmodic dysmenorrhœa and amenorrhœa.—Pr. xxi.377. Also combined with caulophyllin. L. i 80,1132.

It is also used in catarrh of the air-passages with spasmodic cough, and some rheumatic affections. 1 to 10 of water is used as a lotion to the mucous membrane where there is a discharge of a muco-purulent character, especially useful in leucorrhœa.—Phillips, Mat. Med. and Ther.

Use in eclampsia and sympathetic neuroses; and other therapeutic uses in dose of tincture of 5 to 30 minims. —Pr. xxix.32.

Recommended in treatment of inflammation of the estes, cord, and epididymis.—B.M.J. i./86,98; Th. Gaz. April, 1889,246.

# PYRIDINA.

## Pyridine.

*Dose.*—5 to 10 minims (0·3 to 0·6 Cc.) daily, increased.

A base, forming salts with acids, obtained from bone-oil and many organic substances by dry distillation and subsequent purification. It is a colourless liquid with a persistent empyreumatic odour, miscible with water, alcohol, ether, and oils; boils at 243° F.; is contained in and combined with nicotine in the fumes of tobacco, and M. Sée thinks it is probably the relieving agent of various cigarettes and powders smoked or burnt for asthma. It relieves dyspnœa of asthma. A drachm of it is placed on a plate in a small room, in which the patient remains from 20 to 30 minutes three times a day. The respiration becomes easy, and, after a few sittings, the disease disappears more or less completely. In frogs and guinea-pigs, the irritability of the respiratory centre is lessened.—M.R. 1885,344.

Note on the relief of asthma.—L. ii./86,744.

Has been used as a heart stimulant; valuable in angina pectoris and cardiac failure, in doses as above.—L. ii./88,438.

# QUEBRACHO CORTEX.

## White Quebracho Bark.

The bark of *Aspidosperma Quebracho*, imported from the Argentine Republic, is met with in pieces about ¾ inch thick, with a fibrous cinnamon brown-coloured interior, breaking with a short fracture, and having a warty, reddish ochre-coloured suberous exterior. It has a bitter, slightly aromatic taste. It contains the alkaloid Aspidospermine and other principles.—P.J. 1882,781.

**Aspidospermine Sulphate** (Froude), in dose of $\frac{1}{64}$ to $\frac{1}{32}$ grain (0·001 to 0·002 Gm.) hypodermically appears to lower temperature in typhoid where quinine fails.

Seems to assist the blood in absorbing more oxygen, relieves dyspnœa from various causes.—Th. Gaz. Jan. 1888,14; June 93,402; M.C. Aug. 93,340.

**Crude Aspidospermine Sulphate** is deliquescent and unstable; it is much more soluble in water than the alkaloid. Quebracho and its preparations have been employed as remedies in certain forms of asthma and to relieve the dyspnœa of this disease.—B.M.J. i./80,167; Pr. xxxiii.54.

**Tinctura Quebracho.**

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.) or more.

Is prepared 1 in 5 of proof spirit.—P.J. 1879,485.

**Extractum Quebracho Liquidum, P. Aus. Add.** 1 = 1 of bark.

*Dose.*—5 to 10 minims (0·3 to 0·6 Cc.).

**Quillaia,** *v p.* 183.

## QUINETUM.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) or more.

The mixed alkaloids, in amorphous greyish white powder, obtained from red cinchona bark, *Cinchona succirubra*, slightly soluble in water, but readily and perfectly dissolves in it with the aid of a dilute acid. It consists principally of cinchonidine (50 to 70 per cent.) with some quinine, cinchonine, &c.; is cheaper than quinine.

**Quineti Sulphas, Quinetum Sulphate.**

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) or more.

The crystallizable sulphates of the preceding, in acicular crystals resembling quinine, slightly soluble in water, but readily dissolves with the aid of an acid. May be made into pills with glycerin of tragacanth, or given in aqueous solution with acid and tincture of orange. It is not nauseously bitter.

As a tonic, 1 to 3 grains; in ague 10 to 15 grains; no unpleasant effects during its administration.—M.T.G. ii./76,474.

In ague does not produce deafness; is even more powerful than quinine.—Pr. xx.83.

In ague 10 to 15-grain doses act as well as quinine.—B.M.J. i./79,800; Pr. xxii.452.

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## QUINIDINÆ SULPHAS.

**Quinidine Sulphate.**—*Syn.* Conquinine, or Conchinin Sulphate (Hesse).

*Dose.*—1 to 20 grains (0·065 to 1·3 Gm.).

Quinidine is an alkaloid obtained from cinchona, principally from Pitayo and Cuprea barks. The sulphate is in white acicular crystals very like quinine sulphate. Soluble in 100 of water, 1 in 32 of absolute alcohol, rendered more soluble in water by the addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts of the sulphate with one of glycerin of tragacanth in pills. Its solution is fluorescent, but dextrogyrate, and, like quinine, with which it is isomeric, its solution produces an emerald-green colour with chlorine water and ammonia. Quinidine salts are powerful antiperiodics, equal to those of quinine, to which they stand next in market value. Quinidine Sulphate is suitable for administration to children, being less bitter than the other cinchona alkaloids.

In typhoid and ague, doses of 15 to 30 grains with diluted sulphuric acid and peppermint water were attended by good results.—B.M.J. 1/79,937.

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## QUININA.

### Quinine.

*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.) or more (if anhydrous, 3 parts are equal to 4 of sulphate).

The most valued alkaloid obtained from cinchona barks,—is a very bitter, white, or, if well dried, greyish white amorphous powder, slightly soluble in water, soluble in ether, alcohol, chloroform, and dilute acids. Soluble also in aqueous ammonia. One grain dissolved in a drachm of aromatic spirit of ammonia forms an agreeable dose. Its solution in diluted sulphuric acid is fluorescent, lævogyrate, and gives, with solution of chlorine and ammonia afterwards added, a characteristic emerald-green colour due to thalleioquin.

**Acidum Quinicum.**—*Syn.* KINIC ACID.

*Dose.*—4 to 8 grains (0·26 to 0·52 Gm.).

An acid contained in Cinchona, principally combined with the alkaloids and with calcium, is met with in white crystalline masses, easily soluble in water. It is decomposed into hippuric acid in the system, and reduces the uric acid output. Employed in gout and rheumatism. Is combined with Lithium to form **Urosin.**—P.J. i./99,146.

Relieved gout after years of pain.—B.M.J. i./01,940.

A specific for gout.—B.M.J.E. i./01,56.

**Oleatum Quininæ,** *v.p.* 351.

**Quininæ Arsenas,** Quinine Arsenate.

*Dose.*—$\frac{1}{8}$ to $\frac{1}{2}$ grain (0·008 to 0·032 Gm.) in a pill.

Is in small white acicular crystals, sparingly soluble in cold water. Medicinally, its arsenic is about one-tenth that of arsenious acid. It is an antiperiodic, given in chronic malarial fevers. Contains about 29 per cent. of arsenic acid, and 67 per cent. of quinine.

**Quininæ Chloras,** Quinine Chlorate.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) in pill with glycerin of tragacanth.

In slender white needles, slightly soluble in water. It explodes when heated.

**Quininæ Citras,** Quinine Citrate.

*Dose.*—1 to 5 grains (0·065 to 0·032 Gm.) in pill with glycerin of tragacanth, or slightly powdered and suspended in water, in which this salt is sparingly soluble—1 in 900—has, therefore, little taste in this form. It is in acicular crystals like the sulphate.

**Ferri et Quininæ Citras** (*Off.*).

*Dose.*—5 to 10 grains (0·32 to 0·65 Gm.) in solution, or in pills with simple syrup or mucilage of acacia (not in excess, as, unless made very hard, they lose shape). This preparation contains about 15 per cent. of quinine, is in greenish golden scales, slightly deliquescent and very soluble in water. It has an agreeable bitter, chalybeate taste.

**Effervescent Citrate of Iron and Quinine.**

*Dose.*—60 grains (4 Gm.) = 3 grains of the salt.

**Syrupus Ferri et Quininæ Citratis.**

*Dose.*—1 drachm (3·5 Cc.) or more.

1 in 20 of Syrup of Orange.

**Ferri, Quininæ et Strychninæ Citras** (*v.p.*415) is the former preparation, with 1 per cent. of strychnine added.

**Quininæ Fluoridum**, *v.p.*20.

**Quininæ Hydrobromidum, Quinine Hydrobromide.**

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) or more.

In white acicular crystals, smaller than the sulphate, and much more soluble in water (1 in 24). Quinine is given with an excess of hydrobromic acid to lessen the cinchonism sometimes caused by large doses.—B.M.J. ./76,42. Use as an antipyretic. — Pr. xxi.443. In acute rheumatism.—Pr. xli.58.

**Quininæ Hydrobromidum Acidum, Acid Quinine Hydrobromide.**

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) hypodermically.

In yellowish rectangular prismatic crystals, or in powder. Soluble 1 in 6 of water, richer in the alkaloid than the sulphate, is therefore well adapted for hypodermic injection. It is entirely unirritating.—M.R. 1880,443.

The best salt for hypodermic injection; the bromine element tends to correct quinism.—Th. Gaz. 1889,64.

**Injectio Quininæ Hydrobromidi Acidi Hypodermica.** 1 grain in 6 minims.

*Dose.*—3 to 12 minims (0·18 to 0·7 Cc.). Useful in ague where quinine cannot be borne by the stomach; a very much smaller dose of this will act than that required to be given by the mouth.

**Syrupus Ferri Bromidi cum Quinina** and **Syrupus Ferri Bromidi cum Quinina et Strychnina**, *v.p.*238.

**Hypodermic Lamels** of Quinine contain ½ grain.

**Quininæ Hydrochloridum, Quinine Hydrochloride** (*Off.*).—*Syn.* QUININE MURIATE.

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.).

In acicular white crystals generally larger than the sulphate, soluble 1 in 34 of water, 1 in 3 of 90 per cent. alcohol.

Very soluble salt of Quinine, and richer in alkaloid than the sulphate; contains 83 per cent. against 74½ per cent. in the sulphate. Now used for making Tincture and Wine of Quinine and as an antiseptic.—P.J. 1878,470.

Is a powerful germicide; 1 in 800 prevented the development of any germs in a liquid suitable for their growth.—*B.M.J.* ii./81,408.

**Injectio Quininæ Hydrochloridi, U.C.H.**
Ear injection, 4 grains to 1 ounce.

**Pessus Quininæ.**—Contains 3 to 5 grains of Quinine Hydrochloride.

A valuable remedy for leucorrhœa.—L. i./99,26.

**Tablets,** 1, 2, 3, 4, and 5 grains. Dose as Quinine Hydrochloride.

**Tinctura Quininæ** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Quinine Hydrochloride 1, tincture of fresh orange 50. A very agreeable form of taking small doses of Quinine. As suggested by the writer, Hydrochloride of Quinine is used in place of Sulphate.—P.J. 1878,407.

**Vinum Quininæ** (*Off.*).

*Dose.*—½ to 1 ounce (15 to 30 Cc.).

Contains one grain of Quinine Hydrochloride dissolved in one ounce of orange wine.

**Quininæ Hydrochloridum Acidum,** Acid Quinine Hydrochloride (*Off.*), Quinine Dihydrochloride.

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.). ½ to 2 grains (0·032 to 0·13 Gm.) hypodermically.

In white or yellowish white crystalline crusts, very soluble in water. 1 grain in 6 minims is suitable for hypodermic injection. Note on composition of.—P.J. 1892,580. Recommended in cholera.—B.M.J.E. ii./92,55.

**Quininæ Hydrochloro-Sulphas.**

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.).

In masses of small needles, or reduced to powder containing 74 per cent. of alkaloid, and soluble 1 in about 2 of water.—L. ii./92,1142. Specially useful as

**Injectio Quininæ Hydrochloro-Sulphatis Hypodermica,** 1 grain in 4 minims.

*Dose.*—2 to 12 minims (0·12 to 0·7 Cc.).

**Quininæ Hydrochloro-Carbamidum.**—*Syn.* UREA-QUININE.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

In small prisms, soluble 1 in about 1 of water. Is ot rich in alkaloid. Used for hypodermic injection in holera, in 12 to 15-grain doses.—B.M.J.E. ii./93,7.

**Uranii et Quininæ Chloridum**, *v.p.*464.

**Quininæ Iodas, Quinine Iodate.**
*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

In white silky needles, soluble 1 in about 250 of water.

**Quininæ Hydriodidum, Quinine Hydriodide.** *Syn.* Quininæ Iodidum, Quinine Iodide. *Dose.* 1 to 5 grains (0·065 to 0·32 Gm.).

Is in minute pale-primrose coloured crystals, but slightly soluble in water.

**Quininæ Hydriodidum Acidum.** *Syn.* Quininæ Iodidum Acidum, Acid Quinine Iodide.
*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.).

Is in golden acicular crystals, freely soluble in water. Must be kept from the light. A saturated solution (about 3 grains in an ounce) in syrup of ferrous iodide forms **Syrupus Ferri et Quininæ Iodidi.**
*Dose.*—1 drachm (3·5 Cc.).

**Quininæ Lactas, Quinine Lactate.**
*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.), or more.

In commerce is found as a granular white amorphous powder, soluble 1 in 10 of water; said to be easy of digestion.

Is a very soluble salt of quinine and suitable for hypodermic injection.—L. ii./85,310; Th. Gaz.1889,285.

For gonorrhœa, 1 per cent. solution forms an excellent injection.—Pr. xxxiv.132.

**Quininæ Phosphas, Quinine Phosphate.**
*Dose.*—1 to 6 grains (0·065 to to 0·4 Gm.). Is in cicular crystals like the sulphate, but harder and denser.

**Quininæ Salicylas, Quinine Salicylate.**
*Dose.*—2 to 6 grains (0·13 to 0·4 Gm.).

In white silky flexible acicular crystals, sparingly oluble in water, about 1 in 1200, and the addition of mineral acids only helps its solubility by liberating salicylic cid, which may crystallise out. Should be administered uspended in water, or in cachets, or pills with syrup of glucose as an excipient. In 3-grain pills; recommende or diarrhœa and neuralgia.

**Tablets,** 3 grains (0·2 Gm.). *Dose.*—1 to 2.

Useful in rheumatic gout, 3 grains every 6 hours.—L. i./80,540,582.

**Quininæ Sulphas, Quinine Sulphate** (*Off.*).

*Syn.* QUININE DISULPHATE (formerly so termed, often now called simply Quinine, as it is the salt most largely manufactured and most cheaply and conveniently made).

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) as a tonic; 5 to 15 grains (0·32 to 1 Gm.) as an anti-periodic.

In slightly flexible acicular snow-white crystals, with a pure, intensely bitter taste. Soluble 1 in 740 of cold water, 1 in about 100 of 90 per cent. alcohol, 1 in 40 of glycerin, is precipitated from solution by tannic acid, alkalis and their carbonates, but redissolved by an excess of aqueous ammonia. It is generally prescribed in solution or pills. To render ordinary doses of it soluble in water, a dilute mineral acid in the proportion of at least one minim to each grain should be ordered, the sulphate should be moistened with a little water before the addition of the acid, particularly if this be sulphuric acid, the soluble acid salt formed will thus be held in solution, and this may be diluted *ad libitum.* Tincture of orange-peel agreeably harmonizes with and covers the bitterness of Quinine. Although incompatible with alkalis, it is often ordered in conjunction with aromatic spirit or carbonate of ammonia, which precipitate the alkaloid as a sticky mass on the sides of the bottle. To avoid this separation, some mucilage of acacia should be prescribed in the mixture, which prevents the aggregation of the alkaloid and holds it suspended in the liquid. In cases of fever, large doses are thought to be more efficacious with the sulphate of quinine not dissolved. It may be given in wafer cachets, or diffused in water if lightly powdered so as to break the crystals, but not to make them cake and adhere. It can be conveniently formed into pills by adding to 4 parts 1 of glycerin of tragacanth, carefully avoiding excess of the latter, or strong sulphuric acid in the proportion of one drop to five grains, makes a good pill; confection of hips is often used as an excipient, 3 parts require 1 or more of confection. The uses of Quinine internally are well known. Its solution possesses powerful antiseptic properties, and has a bluish fluorescence. Three grains to an ounce of water, dissolved as mentioned, as an eye lotion has a specific action in diphtheritic ophthalmia.—L. i./80,125; L. i./82,6; L. ii./83,12.

Quinine, locally applied, has an immediate and powerful influence in arresting suppurative process in hypopyon.—L.i./92,15.

Catarrh relieved by pills of quinine, atropine, and arsenic.—Pr. xxxviii. 179.—See p. 83.

Eruptions produced by Quinine.—L. ii./88,1267; B.M.J. i./89,608.

Quinine a cardiac stimulant in typhoid, phthisis, and pneumonia.—L.i./91, 930; P.J.1891,980.

Poisoning by 5 to 6 drachms, with recovery.—B.M.J. i./95,279.

Quinine the best prophylactic against influenza.—L. i./95,575.

Quinine useful in place of ergot for delay and hæmorrhage during labour; 8 grains followed by 4 grains in an hour, and a third dose if necessary, where no obstruction.—B.M.J. i./98,762.

**Collunarium Quininæ, Quinine Nasal Douche.**

Quinine Sulphate 1, Water 875.

Dissolve by the aid of gentle heat. Used in hay-fever, a little is placed in the palm of the hand and drawn up through the nose. If a stronger solution be required the Acid Sulphate or Hydrochloride of Quinine should be used; an excess of acid for this purpose should be avoided.

**Mistura Chlori cum Quinina** (Burney Yeo).

To Potassium Chlorate, in powder, 30 grains, in a 12-ounce bottle, add Hydrochloric Acid 60 minims; cork and shake well to liberate chlorine; absorb this by gradually adding, and shaking after each addition, Distilled Water *q.s.* to 11 ounces; add Quinine Sulphate 24 grains (or 36 grains if ordered), Syrup of Orange 1 ounce. *Dose.*—1 ounce (**30 Cc.**), every 2, 3, or 4 hours for typhoid; it quickly cleanses the tongue.

**Perles of Quinine Sulphate** (Pelletier's).

Contain 10 centigrammes (1½ grains) in each.

**Pilula Quininæ Sulphatis** (*Off.*).

*Dose.*—2 to 8 grains (**0·13 to 0·52 Gm.**).

Quinine Sulphate 30, Tartaric Acid 1, triturate and add to Glycerin (by weight) 4, Tragacanth in powder 1 previously mixed. Seven pills *sine* Glycerin passed undissolved.—L. i./01,855.

**Tablets, 1, 2, 3, 4 and 5 grains.**

**Syrupus Ferri Phosphatis cum Quinina et Strychnina.**—Ferri Phosphas, *v.p.*246.

**Tinctura Quininæ Ammoniata** (*Off.*).

*Dose.*—½ to 1 drachm (1·8 to 3·5 Cc.).

Quinine Sulphate 2, Alcohol (60 per cent.) 90; mix and add Solution of Ammonia 10. Is slightly stronger in Quinine than formerly, 1 grain in 1 drachm was used. The Quinine precipitates on addition to water; mixed with an equal quantity of syrup of orange-peel, it is palatable, keeps bright, and bears dilution better; it remains bright if mixed with aërated water. It is better kept in a dark place, else it darkens in colour.

**Tinctura Antiperiodica.**—*Syn.* **Warburg's Tincture, B.P.C.**

Socotrine Aloes 240 grains, Rhubarb 80 grains, Angelica Fruit 80 grains, Elecampane Root 40 grains, Saffron 40 grains, Fennel Fruit 40 grains, Prepared Chalk 40 grains, Gentian 20 grains, Zedoary Root 20 grains, Cubebs 30 grains, Myrrh 20 grains, White Agaric, in powder, 20 grains, Opium, in powder, 2½ grains, Black Pepper 4 grains, Cinnamon 8 grains, Ginger 8 grains, Alcohol (60 per cent.) 1 pint. Macerate for 7 days, press and strain. Dissolve in the product:—Quinine Sulphate 175 grains, Camphor 20 grains. After 3 days filter, add Alcohol 60 per cent. q.s. to 1 pint.

The originally published formula showed that it was a proof spirit tincture, containing Quinine Sulphate 1 in 50, Socotrine Aloes 1 in 40, Opium about 1 in 4,000, Rhubarb 1 in 125, Camphor 1 in 500 with several aromatics.—L. ii./75,716. As it is apt to purge as above prepared, the aloes may be omitted *if so prescribed.*

*Dose.*—1 to 4 drachms or more (3·5 to 15 Cc.).

Originally directed for Indian fever, ague, &c., half an ounce as a dose repeated in 2 or 3 hours; before giving the first dose the bowels should be freely opened, and no food recently taken. Between the two doses nothing should have been taken but a little brandy or beef-tea, and this only if the state of the patient required it.

In enteric fever and pneumonia was useful.—B.M.J., i./01,1339.

**Quininæ Sulphas Acidus, Acid Quinine Sulphate.**—*Syn.* SOLUBLE QUININE SULPHATE, BISULPHATE or NEUTRAL QUININE SULPHATE (so-called when the other sulphate was called Disulphate).

*Dose.*—1 to 10 grains (0·065 to 0·65 Gm.).

Usually met with in large rectangular prisms or masses of crystals. Soluble 1 in 12 of cold water.

Tablets, ½, 1, 2, 3, 4 and 5 grains.

**Quininæ Sulphocarbolas, Quinine Sulphocarbolate.**

*Dose.*—1 to 6 grains (0·065 to 0·4 Gm.) in pill with glycerin of tragacanth. One part of Quinine Sulphate and two parts of Absolute Phenol liquefy and form an oily, colourless fluid. If hot aqueous solutions of the two are mixed in equivalent quantities, Quinine Sulphocarbolate separates on cooling. This salt is met with in commerce as an amorphous white powder, soluble 1 in 680 of water, 1 in 74 of 90 per cent. alcohol. The so-called Quinine Carbolate is generally a Sulphocarbolate as found in commerce.

**Quininæ Tannas, Quinine Tannate, P.G.**

*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.). An amorphous white yellowish powder, obtained by the decomposition of the sulphate with a solution of tannin. Being almost tasteless, is recommended for children, to be given in milk.

**Quininæ Valerianas, Quinine Valerianate.**

*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.).

In white shining crystalline, odourless, rhomboidal plates, or, as more frequently met with in commerce, an amorphous white powder with a slight valerianic odour, soluble 1 in 110 of cold water; best administered in pills with glycerin of tragacanth and a little acacia as excipients; given in nervous headache and hysteria.

**Euchinin.** *Syn.* Euquinine.

*Dose.*—3 to 15 grains (0·2 to 1 Gm.) in cachet.

A compound formed by the action of ethyl chlorocarbonate on quinine, in light masses of silky white needles, with little taste, sparingly soluble in water, more so by addition of dilute acid; easily soluble also in alcohol, chloroform, and ether. Suggested to replace quinine as having less taste and producing no unpleasant after effects.—B.M.J.E. ii./96,101; L. ii./97,39,728; B.M.J. ii./97,1734; Y.B. 1898,460.

Malaria, 5 cases, results as effective as quinine, but causes cinchonism.—B.M.J. i./98,551.

In whooping-cough is of great value.—B.M.J.E. i./99,100.

**Pilulæ Trium Valerianatum.**

Pills containing 1 grain each of the Valerianates of Quinine, Iron, and Zinc. Are efficient nervine tonics.

**Quinoidine.**—*Syn.* CHINOIDINUM, P. Jap.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.) or more.

The mixed amorphous alkaloids, purified from resin, obtained as a by-product in preparing salts of cinchona alkaloids. It is a brownish-black, resinous-like substance, has a vitreous fracture, nearly insoluble in water, is dissolved by acid solutions, which deposit on dilution. Solutions either in boric or sulphuric acid are used as cheap febrifuges. The taste of these is very nauseous.

## RESORCINUM, P.G., U.S.

**Resorcin.** *Dose.*—3 to 8 grains (0·2 to 0·52 Gm.).

A derivative of benzene or phenol, in white crystalline plates, larger than, but resembling, benzoic acid in appearance, melts at 230° F., and is easily volatilised. Soluble 1 in 1 of water, 2 in 1 of alcohol, and 1 in 20 of olive oil. It possesses powerful antiseptic properties. A one per cent. solution prevents putrefaction in such substances as pancreas, blood, and urine, and a stronger solution will destroy the vitality of low organisms. It coagulates albumen, and has a caustic action on the skin, but a 2 per cent. solution is not irritating to it. It is an effective remedy in diphtheritic affections, and produces no injurious consequences. A 5 per cent. solution may be injected into the bladder without causing any irritation, and is useful in inflammatory affections of this organ, likewise in vesical catarrh after gonorrhœa; 5 to 10 per cent. solution is of service also in syphilitic sores and skin diseases; and a 1 per cent. solution improves unhealthy wounds, and is useful as an eye lotion in conjunctivitis. Given internally, but with great care, it has a specific action comparable to quinine, but it is apt to produce profuse perspiration, and its antipyretic action is short; it is best administered well diluted with water and flavoured with syrup of orange or glycerin. It is not compatible with Spirit of Nitrous Ether.—L. ii./80,777; L. ii./81,1065; B.M.J. ii./81,944; Pr. xxvii.381 Pr. xxix.189; Pr. xxx.63.

Tablets, 3 grains (0·2 Gm.). *Dose.*—1 to 3.

**Glycerinum Resorcin, G.H.**

Resorcin 1, Glycerin 3, Distilled Water 1.

**Lotio Resorcini.**

Resorcin 1, Ether 1, Castor Oil 1, Eau de Cologne 10 Alcohol (90 per cent.) 35. Useful for dandriff and alopecia.

**Pasta Resorcini, Ihle's Paste,** St. John's Hospital; Mid. H.

Resorcin 1, Zinc Oxide, Starch, Lanolin, Soft Paraffin, of each 12.

**Pasta Resorcini Fortior** (Lassar).

Resorcin 20, Zinc Oxide 20, Wheat Starch 20, Liquid Paraffin 40.

**Pasta Resorcini Mitis** (Lassar).

Resorcin 10, Zinc Oxide 25, Wheat Starch 25, Liquid Paraffin 40.

**Plaster Mulls** are spread containing 15 grammes of Resorcin in ⅕ square metre, *v.p.*528.

Use as an application in cancer.—L. ii./82,1033.

Whooping-cough, 30 successful cases treated by spray of resorcin every two hours.—B.M.J. i./84,695; and as a pigment to the larynx 1 per cent. solution used.—Ed.M.J. 1884,61; Th. Gaz. 1890,270; M.C. April '97,58.

For impetiginous eczema, 1 or 2 to 10 of vaseline.—Ed.M.J. 1884,66. For lupus.—B.M.J. i./86,956.

Useful as a topical application in diphtheria, also internally in hectic with night sweats; these were unaffected by quinine alone, but under resorcin 2 grains and quinine 3 to 5-grain doses an improvement rapidly took place.—L. ii./85,558.

In psoriasis, a 20 per cent. ointment stains little, does not smell badly, nor injure the general health, but causes some pain.—L. ii./85,577.

Local application to condylomata and mucous patches.—L. i./87,41.

Notes on its value in gastric and cutaneous diseases.—L. i./88,570; ii./91,505.

Pigment of 10 per cent. relieves irritation of tubercle of larynx.—L. i./88,39; ii./91,1185.

Eczema of eyelids; cold cream with 2 per cent. of resorcin useful.—B.M.J. ii./88,1368. Chronic eczema, Th. Gaz. 1888,370.

Cutaneous epithelioma treated successfully by 30 per cent. ointment with vaseline.—B.M.J. ii./90,96; Y.B. 1891,203.

Unusually good results from resorcin plaster in rodent ulcer.—B.M.J.E. i./91,102.

For acne rosacea, combined with zinc oxide.—Pr. 1.380.

Resorcin ointment, 1½ to 3 grains per ounce. Useful in alopecia.—P.J. ii./96,215.

**Euresol,** Resorcin-monacetate.

Occurs as a thick honey-like paste. It is available for all purposes to which resorcin is applied, and from its oily consistence is particularly useful, when dissolved 10 to 30 per cent. in acetone, for application to those parts of the skin covered with hair.—P.J. i./99,54.

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## RHAMNI FRANGULÆ CORTEX.

**Frangula Bark** (B.P. 1885).—*Syn.* BLACK ALDER; CORTEX FRANGULÆ.

This bark is imported principally from Holland in quills about half a line thick, with a warty, greyish brown exterior; contains the crystalline principle Emodin, this is also found in rhubarb root. The bark should not be employed until it has been kept at least one year (*P.G. Supp.*), else, it is stated, it produces sickness as well as purging. It possesses tonic, laxative properties, does not cause griping, and does not need the dose increased if habitually taken. It is especially useful in cases of hæmorrhoids.—P.J. 1871,152; P.J. 1874, 889.

**Extractum Rhamni Frangulæ, B.P.** 1885.

*Dose.*—15 to 60 grains (1 to 4 Gm.). Was a proof spirit extract.

**Extractum Rhamni Frangulæ Liquidum, B.P.** 1885.

*Dose.*—1 to 4 drachms (3·5 to 15 Cc.).

The bark was exhausted by boiling with successive quantities of water, the decoctions concentrated, and spirit added, so that one ounce = one ounce of bark.

**Trochisci Rhamni Frangulæ** are sold under the name of 'Aperient Fruit Lozenges.'

*Dose* for an adult.—1 to 1½ or 2 lozenges.

## RHUS TOXICODENDRON.

**Poison Oak.**—*Syn.* POISON IVY LEAVES.

**Tinctura Rhois.**

*Dose.*—2 to 5 or 15 minims (0·12 to 0·3 or 0·9 Cc.).

Imported from North America, prepared from fresh leaves 1, alcohol 2. A German formula is:—Expressed juice 5, alcohol 6. The emanations of the living plant produce an eczematous eruption of the skin. It has been used for rheumatism in chronic cutaneous affections, paraplegia, and incontinence of urine from atony of the bladder.—Th. Gaz. 1888,853; 1889,676; 1890,63; B.M.J. i./99,530. Also for hæmorrhoids.—B.M.J.E. ii./90,48; Ed. M.J.1890,553.

**Emplastrum Rhois** in rubber combination, 1 yard rolls, is an imported preparation.

The bark of the root of **Rhus Aromatica, Sweet Sumach,** is said to be pungent, aromatic, astringent, stimulant, diuretic, and tonic; useful in enuresis and atonic diarrhœa.—Th. Gaz. 1890,471. The fruit and bark of the common sumach, *Rhus glabra*, are also used as astringents.

**Rose Water, Oil and Ointment,** *v.p.*359.

## RUBIDIUM.

The salts of this metal, on account of their higher molecular weight and greater electrolytic conductivity, have been thought to possess greater chemical activity than those of ammonium, potassium, and sodium, while resembling them in therapeutic action.

**Rubidii Bromidum.**

*Dose.*—5 to 30 grains (0·32 to 2 Gm.).

In white octahedral crystals, soluble 1 in 1 of water, with saline taste. Has been employed with good results in epilepsy. For cheapness,

**Rubidium-Ammonium Bromide**, in white granular crystals, is often employed. Action about equal to that of potassium bromide; more favourable in some cases. Average dose, 90 grains daily.—Th.Gaz.1889,684; 1890, 820; 1891,719; P.J. 1889,62.

Efficient in epilepsy; more powerful than potassium bromide.—B.M.J. i./90,43.

**Rubidii Iodidum.**

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

In colourless cubic crystals, soluble 1 in less than 1 of water; odourless, with bitter saline taste.

Recommended in polyarthritis and syphilis, often tolerated better than potassium iodide, being said to have less action on heart, and to be less irritating to stomach.—P.J. 1893,341; B.M.J.E.i.,94,8; L.ii.,94,42.

## RUMICIN.

*Dose.*—1 to 4 grains (0·065 to 0·26 Gm.) in pill.

The dried extract of the root of *Rumex crispus*—yellow dock. Possesses astringent, tonic, and anti-scorbutic properties, and is given in scrofulous skin diseases and as a depurative in congested liver and dyspepsia. Yellow dock root contains Chrysarobin.

**Tinctura Rumicis.** 1 in 10 of proof spirit.

*Dose.*—1 to 10 minims (0·06 to 0·6 Cc.).

## SACCHARIN.

**Glusidum.** *Syn.* GLUSIDE; GLUCUSIMIDE (*Off.*); BENZOYL-SULPHONIC-IMIDE. SACCHARIN.

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) or more.

A derivative of toluene, obtained from coal tar, in white, intensely sweet, and minutely crystalline powder, rather light and flocculent. It is soluble 1 in 500 of water, in 90 per cent. alcohol 1 in 25, in proof spirit 1 in 80, in ether 1 in 100, incompletely in chloroform, and in glycerin about 1 in 50. It is but slightly soluble in oils and fats,—olive, or cod liver oil does not dissolve one-quarter per cent. of it. Its aqueous solution has an acid reaction; it forms crystalline sweet salts with alkaloids and metallic bases. Solutions of alkalis and their carbonates dissolve it, the latter evolving carbonic anhydride.

Saccharin (about 2 grains of the soluble preparation, or 40 minims of the elixir, in an 8-ounce mixture) disguises the taste of nauseous drugs, such as salicin, sodium salicylate, cascara, nux vomica, and strychnine, and is used to flavour gluten and cocoanut biscuits for diabetic patients.—B.M.J. ii./87,732; M.P.C. ii./87, 342; L. i./89,246.

Saccharin is generally sold standardised to a sweetening power of 300 times that of sugar. It is also prepared refined to a standard of 500 parts of sugar.

**Saccharinum Solubile, Soluble Saccharin,** contains about 90 per cent. of Saccharin in combination with soda. In yellowish-white granular, micro-crystalline masses, easily soluble in water, and therefore convenient for flavouring purposes.

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.) or more.

**Elixir Glusidi, B.P.C.**—*Syn.* **Elixir of Saccharin.** Saccharin 24 grains, Sodium Bicarbonate 12 grains, Rectified Spirit 1 drachm, Distilled Water 7 drachms. Mix, dissolve, and filter. 20 minims contain 1 grain of Saccharin, sufficient to flavour a 4-ounce mixture.—P.J. 1887,436.

**Tablets of Saccharin.** *Dose.*—1 or 2.

Contain ½ grain of Saccharin, combined with sodium bicarbonate. **Saxin** tablets, containing ¼ grain, owe their sweetness to saccharin.

Saccharin is a harmless drug, valuable as a substitute for sugar in cases of diabetes.—L. i./87,644; L. ii./87, 334. Editorial summary.—B.M.J. ii./87,838.

Sweet taste may become persistent.—B.M.J. i./88,296.

May cause unpleasant symptoms of dyspepsia if given to excess in diabetes.—L. i./88,903.

Given internally to stop decomposition of urine in chronic cystitis.—B.M.J. i./88,1222; ii./89,1235; L. i./88,1195; Pr. xli.131.

Quite innocuous, even in large quantities, and for a long period.—L. ii./88,958; P.J. 1888,426.

Experiments have shown that it does not alter the assimilation of fat.—L. i./90,670.

Cases of acute abdominal pain from continued use of.—B.M.J. i./97,715.

Injurious effect from continued use (3½ years); pain in the epigastric and hypochondriac regions with loss of weight. When discontinued pain ceased and patient recovered.—B.M.J. i./01,68.

**Dulcin.**—*Syn.* SUCROL; PARAPHENETOL CARBAMIDE.

In minute white crystals, soluble about 1 in 800 of water, 1 in 25 of alcohol. Possesses sweetening power about 200 times that of sugar; is said not to interfere with appetite or create dislike after prolonged use. Is soluble in and disguises flavour of castor oil.—P.J. 1893, 888,985,443; L i./94,1203.

**Lævulose,** INVERTED SUGAR.—*Syn.* DIABETIN.

A whitish crystalline powder, freely soluble in water; reduces Fehling's solution and turns a ray of polarised light to the left. A stronger sweetening agent than cane sugar. Specially suitable for diabetic patients; is perfectly assimilated, none being found in urine.—P.J. 1893,888.

## SANGUINARIN.

*Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.), in pill.

The powdered resinoid of a coffee-brown colour obtained from blood-root—*Sanguinaria canadensis.* In small doses, stimulant and tonic; in larger doses sedative, reducing the pulse, and increasing expectoration; in still larger doses, emetic.

On dog, stimulates secretion of bile, which is more watery. Is a decided and powerful cholagogue, overdoses are emetic.—B.M.J. Rep. 1878,65; Pr. xxiii.411.

It is undoubtedly emmenagogue and useful in functional amenorrhœa, also useful in dyspepsia and gastro-intestinal catarrh.—B.

## SANTONINUM.

### Santonin (*Off.*).

*Dose.*—2 to 5 grains (0·13 to 0·32 Gm.) in sugar or milk.

A neutral crystalline principle obtained from Santonica or Cina, the flower-heads of *Artemisia maritima var. Stechmanniana* (*A. pauciflora*, Weber). Santonin is insoluble in water, slightly soluble in alcohol and oils (1 in 100 of castor oil). Also soluble in caustic soda solution; exposed to sunlight it turns yellow. Poisonous properties have been ascribed to it, probably due to impurities. It is a useful anthelmintic for round and hread worms. It colours the urine orange, and in too arge a dose may cause objects to appear of a green r yellow colour, or as seen through a yellow medium, bliterating the whole of the violet and the ulterior end f the blue bands in the spectrum.—*Nature*, 1889,408.

As an anthelmintic is most active administered in an ily solution.—L. i./83,971.

**Haustus Santonini et Olei Ricini.**

| | |
|---|---|
| Santonin in powder ... | 4 grains. |
| Castor Oil ... ... ... | 3 drachms. |
| Mix and emulsify with | |
| Mucilage of Acacia ... | 4 drachms. |
| Syrup ... ... ... | 1 drachm. |
| Peppermint Water to ... | 1½ ounces. |

Taken fasting in the morning makes a dose for a child of 6 to 12 years.

When this is inadmissible the santonin may be combined in a tasteless form with jalapin.

Tablets, 1, 2 and 3 grains. *Dose.*—As Santonin.

**Trochisci Santonini** (*Off.*).

These lozenges contain 1 grain (0·065 Gm.) in each, ith Simple Basis; one every night for a few nights hould then be followed by an early morning aperient.

**Suppositorium Santonini.**

Contains 3 grains (0·2 Gm.), or more if ordered. hould be administered every 2nd or 3rd night, for 3 imes. Is an efficient anthelmintic, especially for thread orms, which often infest the anus of children, causing hem to have disturbed sleep.

Inoperative against tape worm; 2 to 4 grains according to age, with one or more teaspoonfuls of castor oil arly in the morning, repeated two or three mornings, eldom fails for thread worms.—R.

Convulsions in a child from 1½ grains.—L. ii./76,413; nd from 5 grains in boy of nine.—L. ii./92,1031.

Rash after 5 grains in an adult.—B.M.J. ii./88,817; lso urticaria in child of seven.—L. i./94,1186.

Poisonous symptoms from its depressing effects on the ervous system.—B.M.J. i./79,322.

Three grains in child of 3½ years caused vomiting, reen perception of all colours, and incontinence of rine, which was of an intense saffron colour.—B.M.J. /91,1224; Pr. xlvii. 129.

Effect on sight and hearing.—B.M.J. ii. '91,726.

Ascarides, producing anæmia, expelled by santonin; small doses recommended.—B.M.J.E. i./92,52.

**Santoninoxim.**

A derivative of santonin produced by the action of hydroxylamine in an alkaline solution. Is less absorbable, and non-toxic, but equally active when administered in double or triple doses.—P.J. 1889,1049; Th. Gaz. 1890,573. On account of insolubility is preferable to santonin.—L. ii./92,1156.

It kills the worm, whereas santonin only paralyses it; both require to be followed by a purgative.—L. i. 91,561.

## SINAPIS.

### Mustard.

The dried ripe seeds of *Brassica nigra* (*Semen Sinapis*, P.G. iv.) and *B. alba* (*Semen Erucæ*, P.G. iv.), powdered and mixed. The condiment sold as mustard consists of this mixture from which most of the oil has been expressed, and the cortical portion of the black seed has been removed. In cases of poisoning a tablespoonful in water is a convenient emetic. **Semen Erucæ, P.G. iv.** (from *Sinapis alba* only).

**Charta Sinapis** (*Off.*).

Black and white mustard seeds in equal quantities are bruised and exhausted of fixed oil by means of benzol, the residue dried and powdered, and of this 5 parts are mixed with 18 volumes of **Liquor Caoutchouc** (*Off.*) (Indiarubber 1, Benzol 10, Carbon Bisulphide 10), spread on cartridge-paper and dried by exposure.

**Caoutchouc** (*Off.*).—**Cautschuc, P.G.** iv.

**Linimentum Sinapis.**

Camphor 3, Alcohol (90 per cent.) 43, dissolve and add Volatile Oil of Mustard 2, Castor Oil 7.

**Oleum Sinapis Expressum.** Is used as a rubefacient.

**Oleum Sinapis Volatile** (*Off.*).

The oil distilled from black mustard seeds after maceration with water.

**Spiritus Sinapis, P.G.** iv.

Oil (volatile) 1, Alcohol (90 per cent.) 49.

**Thiosinamin.**—*Syn.* RHODALLIN, ALLYL-THIO-UREA, ALLYL-SULPHO-CARBAMIDE.

Formed by warming oil of mustard with alcoholic soluion of ammonia. Soluble in water, alcohol, and ether. olution, 15 to 20 per cent., used hypodermically for upus and uterine affections. Should be used with aution.—P.J. 1892,342; L. i./93,1083; B.M.J.E. i./93, 7. For keloid—L. i./97,1106; Y.B. 1898, 363,467.

## SODIUM.

By experiments on the ventricle of the frog's heart it as been proved that, whilst Potassium Salts are very oisonous, Sodium Salts can scarcely be made to kill. y Potassium Salts excitability and contractility are oth powerfully affected; by Ammonium Salts excitability ractically unaffected, contractility powerfully affected; wide gap separates Sodium Salts from the last, by hese excitability is slightly affected, but contractility uffers chiefly; Potassium Salts, by these experiments, re 14 or 15 times as poisonous as Sodium Salts. The herapeutic importance of these results is obvious. Bromide, iodide, and chlorate of potassium are largely iven as medicines; the above would suggest the use of he Sodium salts in preference. Clinical evidence tends o prove the same by their action on the entire organism, s may be judged by the favour shown of late to the atter salts, especially to Sodium Bromide.—L. i./82, 033; ii./82,736; B.M.J. i./82,942; Pr. xxvii.7.

**Saline Solution, Normal.**

A solution of sodium chloride ($\frac{3}{4}$ per cent.), r common salt 60 grains to the pint of boiled water is generally used for intravenous injection in æmorrhage, uterine flooding, or collapse. The solution hould be at a temperature of about 105° F., and njected into any convenient vein, at the rate of about pint in ten minutes. Jennings' formula is Sodium Chloride 50 grains, Potassium Chloride 3 grains, Sodium Sulphate $2\frac{1}{2}$ grains, Sodium Carbonate $2\frac{1}{2}$ grains, Sodium Phosphate 2 grains, to a pint of water this solution should preferably be sterilised), and when reduced to 105° F., 2 drachms Absolute Alcohol dded.—L. ii./91,682,747,810; i./92,913,1289,1357;

B.M.J. ii./91,1150; L. i. 94,105; i./96,1792,1797; i./96,51,146,1769; i./97,1609; ii./97,139.

Carbolic acid poisoning, recovery under injections of saline solution.—L. ii./98,1326.

Shock from injuries much relieved.—L. ii./98,1390.

Post-partum hæmorrhage, successful use.—L. ii./98, 1628. Sciatica relieved by.—L. i./01,1032.

Many gratifying results in relief of effects of hæmorrhage.—L. ii./99,1825.

Injected for typhoid.—B.M.J.E. i./02,30.

Diphtheria treated by saline solution, two teaspoonfuls to the pint of water; good results.—L. ii./00,1131.

In uræmia and puerperal eclampsia.—L. i./01,720; B.M.J. i./01,510.

For gastric ulcer, given by enemata.—L. i./01,818.

**Tubes of Saline Solution, Sterilised,** contain in saturated solution sufficient for two pints, hermetically sealed. Best for post-partum hæmorrhage. —L. i./99,35; ii./00,1866.

**Sodii Arsenas,** *v.p.*85.

**Sodii Benzoas.**—See Acidum Benzoicum, *v.p.*2.

**Sodii Bromidum.** Sodium Bromide (Off.).

*Dose.*—5 to 30 grains (0·32 to 2 Gm.).

**Tablets**, 5 grains (0·32 Gm.). *Dose.*—1 to 6.

In slightly deliquescent granular white crystals, tasting like common salt; soluble 8 in 9 of water. The anhydrous salt only should be used medicinally, it can be crystallized containing 26 per cent. of water. If therapeutically as active as potassium bromide, Sodium Bromide is preferable, from its weaker action on the heart.—Pr. xxviii.7; L. ii./82,736; Pr. xxxi. 224.

Use in epilepsy with cardiac complications.—Pr. xxii.81.

A mixture of bromides in the proportion of potassium bromide 2, sodium bromide 2, and ammonium bromide 1 is said to have a better action than either salt alone.—Erlenmeyer in Brunton.

Use in anæmia following lung disease.—L. i./02,192.

Suggested in narcotic poisoning.—L. i./92,291.

A course of sodium bromide the best means of overcoming morphine habit. Initial dose 30, increased to 100 or 120 grains at intervals of 12 hours. Effects noticed about sixth day, when morphine, which has een gradually lessened each day, should be discontinued.—Th. Gaz. 1890,599.

For sea-sickness, *v.p.*19.

**al Bromatum Effervescens,** *Arzn.* **Effervescent Bromine Salts.**

*Dose.*—60 to 120 grains (4 to 8 Gm.).

Potassium Bromide 400, Sodium Bromide 400, Am- onium Bromide 200, Sodium Bicarbonate 1000, itric Acid 380, Tartaric Acid 445, Sugar 175, all in owder, separately dried and sifted. Mix in above der, and moisten with Absolute Alcohol 300; sift the ass quickly through a coarse sieve and dry about 04° F.

**llepizone.** *Dose.*—1 drachm 4 times a day.

A specialty, contains approximately sodium bromide 0 grains, ammonium bromide 30 grains, potassium omide 20 grains, tincture of nux vomica 15 minims, ith caramel *q.s.* to 1 ounce of winter-green water. istletoe is said to be a constituent.

**odii Cacodylas,** *v.p.*85.

**odii Chloras,** **Sodium Chlorate.**

*Dose.*—10 to 30 grains (0·65 to 2 Gm.).

In large regular modified tetrahedric crystals, colour- ss, and has a mawkish, not disagreeable, saline taste, luble 1 in less than 2 parts of water, and 1 in 34 of 90 er cent. alcohol. It fuses and deflagrates when exposed a red heat. For many purposes for which potassium lorate is used, this salt is to be preferred. For omatitis, with ulceration along the edges of the gums, e evidence in its favour is every bit as unequivocal as it for potassium chlorate.—L. ii./82,736.

Gastric cancer greatly relieved by 2 to 4 drachms ily.—Am.M.S.B. Oct. 1893,983.

**ablets of Sodium Chlorate and Borax,** 5 grains. Useful in loss of voice and congested conditions of the throat.

**rochisci Sodii Chloratis,** 3 grains in each (0·2 Gm.). Are prepared in two forms, with black currant paste, d with plain sugar. They are much more palatable an potassium chlorate lozenges, and are quite as neficial as these in affections of the mouth and throat. —L. ii./82,737.

**Gargarisma Chlori, Chlorine Gargle.**

Sodium Chlorate in powder ... ... 10 grains.
Hydrochloric Acid ... ... ... 30 minims.

Mix in a pint bottle, and let the gas generate and replace the air in the bottle, then cork the bottle, and let it stand for two minutes; lastly add gradually, shaking after each addition,

Distilled Water to ... ... ... 1 pint.

Useful as a detergent, and to remove follicular patches. 2 or 3 ounces in a quart jug may be used as an inhalation (cold). Potassium chlorate may be used in place of the sodium salt, but the latter is less nauseous.

Euchlorine solution prepared similarly to above gargle is recommended in diphtheria, to be used freely as gargle and small quantities swallowed.—B.M.J. i./93,1004; L. i./95,445.

**Sodium Hypochlorite** is an efficient bactericide.—L. ii./96,1509.

**Sodii Cinnamas,** Hetol, *v. p.*3.

**Sodii Citras,** Sodium Citrate. *Dose.*—10 to 60 grains (0·65 to 4 Gm.).

Is in small granular crystals, resembling common salt; it is given as a cooling saline, in preference to potassium citrate.

**Liquor Sodii Ethylatis** (*Off.*).

Is prepared by dissolving sodium 1, in absolute alcohol 20, keeping the latter cool by a stream of cold water; has Sp. Gr. 0·867.

The solution is syrupy, colourless, but darkens to a brown colour, and is recommended as the most manageable and effective of all caustics. It is used to destroy nævi and other vascular growths. It should be lightly, but effectually applied to the part by means of a pointed glass rod for 2 or 3 successive days, when a scale or scab will form, which should be left until it is loose, and the treatment continued again. It is said to cause little or no pain. No water should be allowed to touch the part under treatment.—M.T.G. ii./70,472; L. ii./78,625,654, L. i./81,168,242, P.J. 1878,479,480,854.

Lupus, several cases completely cured by it.—Pr. xxxiv.370; xli.150; B.M.J. ii./88,762; Th.Gaz. 1888,845

Successful use in hypertrichosis, also in removing moles. Pr. xliii.1,81; Th. Gaz. 1889,648.

**Pasta Londinensis, London Paste, T.H.**

Caustic Soda and Unslaked Lime of each equal parts, rubbed together in a warm mortar—made into paste when required for use as a caustic. It is said to be less painful than **Vienna Paste,** which is Caustic Potash 5, Slaked Lime 6, made into a Paste with alcohol.

**Sodii Hippuras,** *v. p.* 2.

**Sodium Hypobromite, Solution of.**

| | | | |
|---|---|---|---|
| Caustic Soda | ... | ... | 100 Gm. |
| Distilled Water | ... | ... | 250 Cc. |

Dissolve, cool, and keep iced while adding *guttatim.*

| | | | |
|---|---|---|---|
| Bromine ... | ... | ... | 25 Cc. |

Mix and dissolve. This solution is used to estimate the amount of urea in a given quantity of urine. On adding the solution, nitrogen is evolved from the urea, and is measured in a suitable apparatus, in which each graduation represents 1 per cent. of urea in the urine.—Jour. Chem. Soc. 1874, 749; L.H. 221,222; L. ii./74, 395; L. i./77,559.

It is better to keep the bromine separate, it is therefore supplied in tubes containing 1, 2·2, and 4 Cc. respectively; 1 Cc. of bromine should be added to 11 Cc. of the solution as required. In place of these **Liquor Bromi**—Bromine 1 Cc., Potassium Bromide 1·5 Gm., Distilled Water *q.s.* to 11 Cc. (=1 in 11) may be used in equal quantity to the soda solution.

**Sodii Hypophosphis,** *v. p.* 384.

**Sodii Hyposulphis.**—*Syn.* Sodii Thiosulphas. —*See* Acidum Sulphurosum, *v. p.* 13.

**Sodii Iodidum** (*Off.*).

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

A dry, white crystalline deliquescent powder, soluble 3 in 2 of water.

**Sodii Nitris,** Sodium Nitrite (*Off.*).

*Dose.*—1 to 2 grains (0·065 to 0·13 Gm.).

In white, deliquescent, crystalline granules, or in sticks, with a cooling saline taste, soluble 2 in 3 of water; useful in angina pectoris and in epileptiform convulsions. In these has an action similar to nitrite of amyl.—Pr. xxviii,420; Pr. xxx.179,321.

**Compressed Tablets,** 2½ grains each, are prepared.

For asthma 3 to 5 grains frequently repeated; specially useful with hyoscyamus.—L. i./90,240.

Can well replace the less stable nitrites, most useful in angina and irregular heart action; bronchitis and asthma are not benefited.—Pr. lii.357.

**Sodii Permanganas,** *v.p.*325.

**Sodii Peroxidum,** *v.p.*279.

**Sodii Phosphas,** **Sodium Phosphate** (*Off.*).

*Syn.* Hydric-di-Sodic Phosphate; Tasteless Purging Salt. *This Salt and its preparations should be Arsenic-free.*

*Dose.*—¼ to ½ ounce (7 to 15 Gm.) or 30 to 120 grains (2 to 8 Gm.) repeated, may be given in soup.

Soluble 1 in 5 of water, is very efflorescent, loses 63 per cent. of its weight when heated to dull redness.

**Sodii Phosphas Effervescens.**

*Dose.*—1 to 3 drachms (4 to 12 Gm.).

This forms a convenient and pleasant mode of taking this useful purgative.

**Sodii Phosphas Effervescens** (*Off.*).

*Dose.*—¼ to ½ ounce (7 to 15 Gm.), or 1 to 2 drachms (4 to 8 Gm.) repeated.

Sodium Phosphate 100 (reduced by drying to 40) Sodium Bicarbonate 100, Tartaric Acid 54, Citric Acid 36. Granulated by heating, stirring, and sifting. Product weighs about 200. *Its strength approximates that of the last preparation, which was introduced by the writer.*

**Sodii Phosphas Exsiccatus.** Mixes with other powders without deliquescing. *Dose.*—10 grains to 4 drachms (0·65 to 16 Gm.) in some warm liquid.

Sodium phosphate is mildly aperient, well suited for a delicate stomach; in small doses it is antacid and diuretic, useful in bilious sick-headache and jaundice.

It acts as a powerful hepatic stimulant and a moderately powerful intestinal stimulant, on the dog.—B.M.J. i./79,177.

For hepatic calculi, 60 grains 3 times a day, recommended with $\frac{1}{20}$ grain sodium arsenate added, if any evidences of gastric intestinal catarrh are present.—B.

Subcutaneous injection (of 2 grains) recommended in nervous affections.—B.M.J.E. ii./92,80. Cure of locomotor ataxy.—L. ii./93,1246; doubts thrown upon the case, 1422, 1550. Another case.—L. ii./93,1352.

**Sodii Salicylas.**—See Acidum Salicylicum, *v.p.*33.

**Sodium Silicate, Solution of.**

*Syn.* Soluble Glass, Water Glass.

A viscid solution, of the consistence of treacle, usually containing 10 per cent. of caustic soda and 20 per cent. of silica. Sodium Silicate solution has a remarkable power in arresting the putrefaction of organic matter. Diluted solutions have been employed as injections in leucorrhœa, gonorrhœa, uterine ulceration, into the bladder in cystitis, and the nostrils for ozæna. The corresponding potassium preparation has been similarly used, also in erysipelas, diluted with from 4 to 11 parts of water. The latter, care being taken that it was neutral, has been employed to paint over the affected part with success.—Pr. xv.293.

**Potassium Silicate, Solution of.**

*Syn.* Soluble Glass, Water Glass.

Is less viscid than the last. Both preparations have been employed to impregnate bandages for treating fractures and other surgical cases, in place of starch; but the potassium solution, if nearly neutral, is preferred.

**Sodii Persulphas, Sodium Persulphate.**

*Dose.*—1 to 3 grains in water before meals.

In small white granular crystals, soluble in water. Is recommended by M. Robin for tuberculosis because it stimulates the appetite. Useful in hyper-acid dispepsia, at the onset of the acid catarrh, also in gastric cancer.—P.J. i./01,369.

**Ammonium and Potassium Persulphates** (the latter known as **Anthion**), are used in Photography.

The Ammonium Salt is stable at 100° C. but in the moist condition, readily yields ozonized oxygen, liberates iodine from potassium iodide, converts uric acid into guanine, &c., oxidizes hæmatine in Ammonical Solution.

**Persulphates** are oxidizing agents, and by their readily and easily producing ozone may prove of use in medicine, the Lithium Salt particularly in gout and rheumatism.—P.J. ii./97,1.

**Sodii Sulphas Acidus,** Acid Sodium Sulphate.
*Syn.* SODIUM BISULPHATE.

In crystals resembling the normal sulphate, is recommended to purify water which may have typhoid contamination; 15 grains to a pint of water destroys *B. typhosus* after 15 minutes contact.

**Tablets,** 5 grains (0·32 Gm.)

**Sodii Sulphas Exsiccatus.** Natrium Sulphuricum Siccum, P G. iv.

*Dose.*—½ to 2 drachms (2 to 8 Gm.).

On drying sodium sulphate (Glauber's salt) it loses about one-half its weight (the water of crystallization), leaving the anhydrous salt—a preparation which is much more convenient for use in dispensing, especially in powders. The Epsom salt, although a more active aperient than Glauber's salt, does not stimulate the liver like the latter, and is not nearly so agreeable to take. In weak solution these salines act much more efficiently.—Pr. xvii. 241.

Sulphate of sodium exhibits no poisonous action when injected into the circulation, but sulphate of magnesium when so injected acts as a powerful toxic agent, paralysing first the respiration and afterwards the heart. Neither purges when injected into the blood or subcutaneously.—B.M.J. i./85,1161. Useful in dysentery.—B.M.J. i./01,879.

Glauber's salt is most pleasant to take, in the form of

**Sodii Sulphas Effervescens,** Effervescent Sodium Sulphate.

*Dose.*—A teaspoonful or more in half a tumbler of water, taken half an hour before breakfast, it produces as a rule *one* efficient evacuation.

An agreeable and palatable aperient introduced by the writer, containing about half its weight of dried sodium sulphate; stimulates both the liver and bowel without causing depression. Its action resembles that of Carlsbad Water. It is suitable for travellers, being portable, non-deliquescent, stable in composition, and keeps in the tropics.—L. ii./79,878; B.M.J. i./80,21.

**Sodii Sulphas Effervescens** (*Off.*).

*Dose.*—¼ to ½ ounce (7 to 15 Gm.), or 1 to 2 drachms (4 to 8 Gm.) repeated.

Sodium Sulphate 100 (reduced by drying to 44), Sodium Bicarbonate 100, Tartaric Acid 54, Citric Acid 36.

Granulate by heating, stirring, and sifting. Product weighs about 200. *Its strength approximates that of the last preparation.*

**Sodio-Magnesii Sulphas Effervescens, Effervescent Sodio-Magnesian Aperient.**

*Dose.*—A teaspoonful or more in half a tumbler of water, taken half an hour before breakfast.

An agreeable and efficient aperient introduced by the writer. The Sulphates of Sodium and Magnesium combined resemble Hunyadi Janos and Pullna waters; also Friedrichshall, if a little common salt be added to each dose. This preparation is palatable, stable in composition, and convenient to use when travelling.

**Chloro-Sodio-Magnesian Aperient.**

*Dose.*—A teaspoonful or more.

Contains some sodium chloride, and is found of great service in migraine.—L. i.,'93,79.

**Magnesii Sulphas Effervescens** (*Off.*). — *Syn.* EFFERVESCENT EPSOM SALT.

*Dose.*—½ to 1 ounce (15 to 30 Gm.), or 1 to 4 drachms (4 to 16 Gm.) repeated.

Magnesium Sulphate 100 (reduced by drying at 130° F. to 77), Sodium Bicarbonate 72, Tartaric Acid 38, Citric Acid 25, Sugar 21. Granulate by heating, stirring, and sifting. Product weighs about 200.

*** The activity and palatability of the last five preparations may be increased, especially in winter, if taken in warm water. The combination of the salts of sodium and magnesium makes a more active purgative, but the effervescent sodium sulphate alone is more pleasant to take.

**Sal Carolinum Factitium, P.G.**, P.Jap. **Artificial Carlsbad Salt.**

*Dose.*—20 to 60 grains (1·3 to 4 Gm.) in warm water.

Dried Sodium Sulphate 44, Potassium Sulphate 2, Sodium Chloride 18, Sodium Bicarbonate 36, all in fine powder. Mix. 53 grains to 1 pint of water is similar to Carlsbad Water.

**Pulvis Salis Carolini Factitii Effervescens P.P.C.** *Dose.*—60 to 120 grains.

Exsiccated of Sodium Sulphate 11 ounces, Potassium Sulphate ½ ounce, Sodium Chloride 4½ ounces, Sodium.

Bicarbonate 54 ounces, Tartaric Acid 40 ounces, Gluside 28 grains. Separately dry, then mix.

**Pulvis Sodæ Tartaratæ Effervescens** (*Off.*). **Seidlitz Powder.**

| | | |
|---|---|---|
| Sodium Potassium Tartrate, in dry powder | ... ... | ... 120 grains |
| Sodium Bicarbonate | ,, | ... 40 grains |
| In the blue paper. | | |
| Tartaric Acid | ,, | ... 38 grains |
| In the white paper. | | |

**Sodii Sulphocarbolas**, *v.p.*15.

**Sodii Sulpho-Ichthyolas**, *v.p.*287.

**Sodii Sulpho-vinas**, Sodium Sulphovinate. *Syn.*—Sodium Sulphethylate or Ethylsulphate.

*Dose.*—¼ to 1 ounce (7 to 30 Gm.); is a tasteless aperient and does not cause colic. The salt is in efflorescent colourless crystals.

**Sodii Taurocholas**, Sodium Taurocholate.

*Dose.*—2 to 6 grains (0·13 to 0·4 Gm.), in pill, keratin-coated to prevent solution until it reaches the bowels. A white or whitish amophrous powder, prepared from pig's bile. Should be free from sodium glycocholate, with which it is naturally associated. It has been recommended for gouty obesity and dyspepsia.—L. i.'85,745, 917.

**Sodii Telluras**, Sodium Tellurate.

*Dose.*—⅓ to ⅔ grain (0·02 to 0·04 Gm.) in pill daily. A powerful antisudorific, in phthisical and other sweating. It gives the characteristic tellurium smell to the breath, and may cause diarrhœa if pulmonary lesions are far advanced.—B.M.J.E. i.'91,110; ii.'91,182; ii.'06,84; Pr. lviii.336.

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## SPARTEINÆ SULPHAS.

### Sparteine Sulphate.

*Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.), increased.

The sulphate of an alkaloid obtained from the leaves and branches of Broom, *Cytisus Scoparius* (*Genêt à Balais. Codex Supp.*). Is in colourless rhombohedral crystals, soluble 3 in 2 of water. The pure alkaloid is a syrupy liquid.

**Injectio Sparteinæ Hypodermica.**

Contains 1 grain of the Sulphate in 6 minims.

*Dose.*—2 to 6 minims (0·12 to 0·35 Cc.).

**Hypodermic Lamels of Sparteine** contain 1 grain (0·065 Gm.); **Hypodermic Tablets** contain ½ grain (0·032 Gm.).

**Pills of Sparteine** contain ¼ grain (0·016 Gm.) each.

Sparteine has been recommended as a remedy for morphine habit, *v.p.*332.

Has a tonic action on the heart, restoring its rhythm and accelerating its beats when in a weak atonic state. B; L.i./87,391; Th. Gaz 1887,837; B.M.J. i./86, 282; L. ii. 87,319. Is not cumulative, a valuable diuretic, should be tried when digitalis fails, relieves stenocardiac attacks.—B.M.J. i. 88,363; i., 91,687.

Useful in infantile diphtheria, $\frac{1}{10}$ grain 4 times daily, with or without digitalis.—B.M.J. ii./88,649.

Pulse is slowed and increased, and activity of heart reduced. Should be used where digitalis is contraindicated. Suggested use in angina.—Th. Gaz. 1889,346.

Prompt in action, but inferior to digitalis in power; useful in uncompensated heart disease.—Pr. xliv 60.

Sparteine finds its best opportunity in combination with digitalis, or other remedies of the same class, then inducing an amount of diuresis not otherwise obtainable. —B.M.J. ii./92,1156; Pr. xlix.301.

In some cases one or two grains three times a day acts better than small doses often.—Pr. li.213.

**Oxysparteina, Oxysparteine.**

*Dose.*—½ to 1½ grains (0·032 to 0·1 Gm.) daily

An oxidation product of sparteine in white granular crystals, easily soluble in water, alcohol, ether, or chloroform, forming strongly alkaline solutions.

A useful cardiac stimulant where there is much contraction of vessels, as it hardly affects the latter.—B.M.J. ii./92,1156.

**Oxysparteinæ Hydrochloridum.**

*Dose.*—½ to 1½ grains (0·032 to 0·1 Gm.) daily.

In transparent crystals, freely soluble in water. May be given hypodermically.

## SPHAGNUM.

**Turf-Moss, Bog-Moss,** *Sphagnum, sp. var.*

This, when dried, on account of its elasticity and great capability of sucking up or imbibing liquids, forms a useful dressing for absorbing the discharge from open wounds, and especially urinary discharge in bladder, kidney, and dropsical affections. It is antiputrescent, and may be made thoroughly antiseptic by being sprayed with sublimate solution before use. It is sold in compressed sheets, like cardboard, which absorb 10 to 20 times their weight of water, and when disintegrated, may be formed into pillows or pads by enclosure in muslin bags. —P.J. 1884,591; B.M.J. ii./87,829.

Recommended as an absorbent of pus, leaving wound clean. May be used as a padding for splints.—M.C. Feb. 1892,292.

## STILLINGIA, U.S.

The root of *Stillingia sylvatica*, Queen's Root, Queen's Delight, is used medicinally in America. Contains an alkaloid Stillingine (not to be confounded with Stillingin, *v. below*). In large doses it is emetic and cathartic, in small doses alterative, used for scrofula, syphilis, jaundice, dropsy depending on liver disease, and for piles.

**Extractum Stillingiæ Fluidum, U.S.**

*Dose.*—15 to 60 minims (0·9 to 3·5 Cc.), one part = 1 of root.

**Liquor Stillingiæ Compositus,** McDade's Succus Alterans.

A remedy for syphilis, consists of fld. ext. Smilax Sarsaparilla, fld. ext. Stillingia, fld. ext. Lappa Minor (burdock), fld. ext. Phytolacca, of each 2 oz., tincture of Xanthoxylum Carolinianum (prickly ash), 1 oz.; a teaspoonful increased to a tablespoonful three times a day before meals.—B.M.J. i./83,449; B.M.J. ii./87,655.

**Stillingin.** The chocolate brown powdered extractive.

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.) in a pill.

## STRONTIUM.

Similar comparative physiological experiments, conducted in France, to those mentioned under Sodium *v.p.*429) tend to show that, next to this metal, Strontium s probably the most inoffensive of the alkaline earth-metals. Its salts improve the appetite, assist assimilaion and nutrition, and increase bodily weight. They are also said to be antiseptic to the digestive tract.

Strontium salts are innocuous, not diuretic, and check formation of albumen in epithelial and parenchymatous, but not interstitial, nephritis.—L. i./92,47.

**Strontii Bromidum**, **U.S.**

*Dose.*—5 to 30 grains (0·32 to 2 Gm.).

In deliquescent acicular crystals, soluble in an equal quantity of water. Used successfully in gastric affections, dyspepsia, &c.; also in epilepsy and chronic cardiac and renal diseases. Has less toxic action, and is better borne than potassium bromide.—B.M.J.E. ii./91,77, 183; i./92,7; ii./93,23; Pr. xlix.141; Th. Gaz. 1892, 120; B.M.J. i./95,1089.

**Strontii Bromidum Exsiccatum.**

*Dose.*—4 to 24 grains (0·26 to 1·5 Gm.).

On drying the last salt it loses most of its water of crystallisation, 4 parts are about = 5 of crystals.

Valuable in acute gastric catarrh and vomiting of nervous origin.—Pr. liii.130; B.M.J. ii./92,1286; B.M.J.E. ii./92,84.

Epilepsy, good results in.—L. ii./93,46; ii./96,870, 1056; L. i./99,1089; ii./99,958.

Useful in convulsions, epilepsy, and dilated stomach; less control over epilepsy than potassium bromide, but less liable to cause acne.—L. i./95,567; ii./98,988.

Is of less value than the potassium salt in cases of epileptic insanity.—L. ii./99,411.

**Strontii Carbonas.**

*Dose.*—5 to 30 grains (0·32 to 2 Gm.).

**Strontii Iodidum.**

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.).

In white crystalline masses, freely soluble in water.

The action of bromide and iodide of strontium in exophthalmic goitre of children beneficial.—B.M.J. ii./98,1042.

**Strontii Lactas**, **U.S.**

*Dose.*—5 to 30 grains (0·32 to 2 Gm.).

A white crystalline powder, very soluble in water.

Of great service in albuminuria and Bright's disease, given up to 90 grains daily.—L. ii./91,1199; ii./94,992; i./95,567; P.J. 1895,959.

Recommended in Bright's disease, is a pure diuretic. —B.M.J.E. ii./96, 76; ii./97,40.

**Strontii Salicylas.**

*Dose.*—5 to 20 grains (0·32 to 1·3 Gm.) in cachet. A white crystalline powder, slightly soluble in water. Very valuable for chronic gout and lithæmia, and a good intestinal antiseptic.—B.M.J. i./95,14.

## STROPHANTHUS (*Off.*).

*Syn.* STROPHANTUS.

The mature ripe seeds of *Strophanthus Kombé* (Oliver), freed from the awns, used in preparing the Kombé arrow poison in various parts of Africa, are of a greenish fawn colour, and are covered with silky appressed hairs. A section of the seed should give a green colour with sulphuric acid. — P.J. 1873,523; 1877,756; B.M.J. ii./85,263,904; L. ii./85,309.

Varieties of strophanthus in commerce.—P.J. 1893, 868,927. Pharmacognosy of, ii./00,241,265.

*Strophanthus sp.* have yielded two crystalline glucosides:—Strophanthin, from *S. Kombé*, which gives a green reaction with sulphuric acid, melts at 172·75° C., and breaks up into Strophanthidin, and the methyl-ether of a peculiar sugar,—and Pseudo-Strophanthin, probably from *S. hispidus* and other species which gives a red colour with sulphuric acid, melts at 179° C., yields Pseudo-Strophanthin on hydrolysis, and is about twice as active physiologically.—P.J. 1889,328; ii./00, 314,388.

**Strophanthin.** *Syn.* Strophantin.

*Dose.*—$\frac{1}{300}$ to $\frac{1}{100}$ grain (0·0002 to 0·00065 Gm.) hypodermically. Is irritating at the seat of injection.

Is a white micro-crystalline glucoside, freely soluble in water, allied in its physiological and therapeutical action to digitalin. Melts at 172·75° C. Injected under the skin of a frog it stops the action of the heart, with the ventricle pale and contracted, whilst the auricles are dark and distended; it seems to act directly on the cardiac muscular fibre. It is a cardiac tonic and diuretic.—P.J. 1890,533.

Presence of Choline and Trigonelline found in strophanthin.—P.J. i./98,506.

**Ouabaïn,** a glucoside from Ouabaio wood, obtained from a *Carissa sp.* of the same natural order as strophanthus, is in colourless rectangular lamels, slightly soluble in cold water, freely in hot, fairly soluble in moderately strong spirit, insoluble in absolute alcohol and ether, but freely soluble in glycero-alcohol. It gives a red colour with sulphuric acid and has similar physiological properties to strophanthin, but is much more toxic in action.–P.J.1888, 162; L.ii./88,392; B.M.J.ii./89,1185. Strophanthin and ouabaïn produce anæsthesia of cornea and conjunctiva.—B.M.J. i./89,1418; ii./89,1185. Use objectionable.—L.i./90,520; B.M.J. i./90,746. Ouabaïn has been used for whooping-cough in doses of $\frac{1}{1000}$ to $\frac{1}{250}$ grain every three hours.—B.M.J. i./90,950; Pr. xlv. 137; L. ii./91, 887. Study on its physiological action.—B.M.J.E. ii./92,27.

Summary of effects of strophanthin:—pulse regulated and strengthened, dyspnœa and palpitation lessened, urine increased (apparently due to increase of blood pressure), appetite increased, action of bowels and perspiration not affected, — non-cumulative.—B.M.J. i./90,1327; L. ii./90,414; Pr. xlv. 130; Th. Gaz. 1890,489.

**Extractum Strophanthi** (*Off.*).

*Dose.*—¼ to 1 grain (0·016 to 0·065 Gm.).

The seeds are first percolated with purified ether, and then with 90 per cent. alcohol; the alcoholic percolate concentrated and mixed with milk sugar, so that 2 parts of extract in powder = 1 part of seeds.

**Tinctura Strophanthi** (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

Strophanthus Seeds, in No. 30 powder, 1; moisten with Alcohol (70 per cent.) *q.s.*; macerate for 48 hours, then percolate slowly to produce 20, and dilute to 40 with more alcohol. Is half the strength of old preparation. U.S. is double this strength with weaker spirit. 1 in 10 Alcohol (70 per cent.) P. Aus. Add.

Experiments on removing fat from, by cooling to 14°C., and by other methods. Cooling proved satisfactory.—P.J..ii./99,469.

In aqueous mixture, preparations of Strophanthus are said to rapidly undergo decomposition. The tincture should therefore be prescribed in combination with chloroform water or spirit.—P.J. 1886,411,503; B.M.J. i./87,151.

Gives better results than strophanthin.— B.M.J. i./90,1327.

Seven-drop doses for alcoholism with weak heart; creates distaste for alcohol.—L. ii./94,211; Am. M.S.B. 1894,797.

**Pilula Strophanthi** = 4 or 8 minims of Tincture, combined with milk sugar. *Dose.*—1 to 3.

**Tabellæ Strophanthi,** each equal to 4 minims of Tincture, combined with chocolate. *Dose.*—1 to 5.

This drug is a powerful heart tonic and diuretic, replacing digitalis in many cases, and its effects are found to be non-cumulative.—L. i./87,644,964.

Its chemistry and uses, by Fraser.—Proc. Roy. Soc. Edin. xxxv. 955; xxxvi. 343; B.M.J. ii./87,171. Essay and discussion.—B.M.J. ii./85,904; i./89,1369.

A valuable cardiac tonic, succeeding after digitalis has failed.—L. ii./87,202,513; Pr. xl. 59.

Uncertain in action, and inferior to digitalis.—B.M.J. ii./87,1100,1184; L. ii./87,319; L. i./89,739.

Is of special value in the cardiac failure of prolonged typhoid fever.—L. ii./87,201,319,605.

Beneficial in heart weakness and failure of a functional nature.—B.M.J. i./88,901; L. ii./88,807.

Of benefit in exophthalmic goitre. Two minims of tincture, increased to 10, every 6 hours.- Pr. xlii. 51,206.

Especially valuable in stenosis, but unsuitable in aortic disease; pulse improves in force and rhythm. Contra-indicated in angina pectoris.—L. ii./88,1047; i./89,199,304; P.J. 1888,606.

Successful in angina pectoris; strophanthin unreliable. —L. i./89,199,304.

A good medicament of the second order, far superior to adonis, caffeine, and sparteine —L. i./89,252.

Strophanthus of great value in renal insufficiency; advantage of immediate action compared with digitalis.— Th. Gaz. 1890,436.

Should not be prescribed in advanced stages of heart disease, especially if nephritis present.—Pr. xliii.460; M.C. May 1890,130.

Strophanthus not as generally useful as digitalis, but occasionally of service where the latter has failed or is not tolerated. Useful where contraction of vessels great, as it acts less on these than on heart.—L. ii./92,277; B.M.J. ii./92,1156.

Useful in the cardiac failure of acute pneumonia following influenza.—B.M.J. i./98,1120.

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## STRYCHNINA (*Off.*).

## Strychnine.

*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.), in solution or in pill.

The alkaloid obtained from Nux Vomica, St. Ignatius' beans (*v.p.*351), and the seeds of other species of *Strychnos*. In trimetric prismatic crystals, colourless and inodorous. Amorphous Strychnine should not be used, as it is more liable to contain, as an impurity, Brucine (also contained in *Nux Vomica*). Pure Strychnine should not be coloured by strong nitric acid, indicating an absence of Brucine. It is very slightly soluble in water, about 1 in 6,700, about 1 in 310 of proof spirit, 1 in 170 of 90 per cent. alcohol, 1 in 400 of absolute alcohol, soluble also in chloroform, nearly insoluble in ether. Its salts are more soluble, and acids render the alkaloid more soluble in water. It is very poisonous; it affects the spinal cord by producing convulsions resembling those of tetanus. Its properties are so well known as not to need further description here.

**Ferri et Strychninæ Citras.**

*Dose.*—3 to 6 grains (0·2 to 0·4 Gm.) in solution.

In scales of a greenish golden colour resembling citrate of iron and quinine, freely soluble in cold water. It contains 1 per cent. of Strychnine.

**Ferri, Quininæ et Strychninæ Citras.**

*Dose.*—3 to 6 grains (0·2 to 0·4 Gm.).

This is in scales of a greyish-golden colour like the former preparation, but in addition to 1 per cent. of Strychnine it contains about 15 per cent. of Quinine.

**Strychninæ Acetas.**

*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

In small colourless acicular crystals, soluble 1 in 44 of water, imperfectly through loss of acetic acid.

**Strychninæ Arsenas, Strychnine Arsenate.**

*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

In small white acicular crystals, soluble 1 in 29 of water.

Successful in phthisis by hypodermic injection of ½ per cent. mixture with liquid vaseline. *Dose.*—4 to 15 minims daily.—L. i./89,596.

**Strychninæ Hydrobromidum, Strychnine Hydrobromide.**

*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

In minute white crystals, soluble 1 in 55 of water.

**Strychninæ Hydrochloridum, Strychnine Hydrochloride** (*Off.*).

*Dose*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

In small trimetric prisms, soluble 1 in 35·5 of water.

**Liquor Strychninæ Hydrochloridi** (*Off.*).

*Dose.*—2 to 8 minims (0·12 to 0·5 Cc.).

Strychnine Hydrochloride 1, Alcohol (90 per cent.) 25, Distilled Water *q.s.* to 100. Is incompatible with *Liquor Arsenicalis* and Strychnine may be thrown out of solution if this liquor be prescribed with an alkaline salt such as potassium bromide often is. Acidulating the latter with hydrobromic acid will, in most cases, prevent this.—P.J. ii./00,389.

For **hypodermic injection** a 1% solution in sterilised distilled water may be used. *Dose.*—2 to 6 minims.

**Strychninæ Nitras.** *Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

In hard colourless needles, soluble 1 in 67 of water.

**Injectio Strychninæ Nitratis Hypodermica.**

*Dose.*—2 to 6 minims.

Strychnine Nitrate 1 grain, Distilled Water 100 minims. Heat gently till dissolved.

In nocturnal incontinence of urine used with good results.—Pr. xxxiii.376.

In amaurosis used with powerful curative effects.—M.T.G. i./71,76,431.

In gastralgia, no such remedy as this, also recommended to relieve pain of cardialgia and gastrodynia.—Anstie in R.

Chorea minor in child which had resisted all ordinary methods, cured by nitrate of strychnine:—$\frac{1}{20}$ grain in pill 3 to 5 times daily.—M.C. Jan. 1892,252.

**Strychninæ Phosphas Acidus.**

*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

In light shining acicular crystals, soluble 1 in 31·5 of water.

**Strychninæ Sulphas.**

*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

The neutral salt is in prismatic crystals, soluble 1 in 632 of water.

**Strychninæ Sulphas Acidus.**

*Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain (0·001 to 0·004 Gm.).

In white silky acicular crystals with a slightly acid reaction, soluble 1 in 42 of water.

**Hypodermic Lamels of Strychnine** contain $\frac{1}{60}$ grain (0·001 Gm.) of the sulphate.

**Hypodermic Tablets** contain $\frac{1}{100}$, $\frac{1}{60}$ and $\frac{1}{30}$ grain.

Strychnine hypodermically the only treatment found capable of arresting progressive muscular atrophy. Acts more directly than by mouth.—Gowers, Diseases of the Nervous System, 2nd ed., vol. i. p.496.

Stimulates the respiratory centres and is useful in embarrassed breathing.—Trans. Med. Congress, 1881, .453. Dyspnœa of anæsthesia.—Pr. xli.401.

Potassium Bromide 4 drachms, repeated in 2-drachm doses every quarter of an hour, an antidote to strychnine.—Murrell on Poisons.

Poisoning by three quarters of a grain successfully treated by one drachm of chloral hydrate with half an ounce of potassium bromide and an ounce afterwards given in divided doses.—L. i./81,52; ii./89,166. Another case.—B.M.J. i./93,845.

Apomorphine injection a suitable emetic in case of poisoning.—B.M.J. ii./92,179; P.J. 1892,84.

Drink-craving in cases of alcoholism is relieved by strychnine either by mouth or hypodermically.—B.M.J. /86,835; i./88,90; i./89,121; ii./91,677; L. i./88, 542; i./89,1068; i./90,980; L. i./91,897.

Produces healthy sleep in cases of insomnia from worry.—Pr. xl. 28.

Is of immense value in obviating and controlling post-partum hæmorrhage.—B.M.J. ii./85,913,1059; i./86, 75.

Paralysis of soft palate after diphtheria in children quickly cured by hypodermic injections of $\frac{1}{32}$ to $\frac{1}{20}$ grain. —L. i./91,1060; B.M.J. i./92,1303; Pr. xlix.295.

Many cases of snake and adder bites in Australia cured by hypodermic injection; also bite of poisonous spider.—L. i./91,1343; i./92,483; Pr. xlvi.449; xlviii. 291; B.M.J.E. i./92,53; P.J. 1891,1139; *ex* Austral. Med. Gaz. Dec. 1891,78,84,89,90. Also several cases in India.—L. i./92,1183; L. ii./93,1608,1653; i./95, 645. Another Australian case.—L. i./95,744.

Strychnine only likely to add further agony to persons cobra-bitten.—B.M.J. i./95,884.

Discussion on the hypodermic dose to relieve chloral poisoning.—L. i./94,782,840,915,1044.

Subcutaneous use of large doses for surgical shock. 15 to 20 minims of Liquor.—B.M.J. ii./90,1471.

Recovery after taking more than three grains of strychnine in the form of Battle's Vermin Killer.—L. i./98,1682.

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## SULPHONAL (*Off.*).

*Dose.*—10 to 30 grains (0·65 to 2 Gm.). In cachets or suspended with mucilage. Should be finely powdered, and followed by a draught of hot fluid. Unless in solution, a dose should be given at least an hour before sleep is desired.

*Syn.* Dimethyl-methane-diethylsulphone. Produced by oxidation of a mixture of ethyl-mercaptan and acetone. In colourless crystals or powder, tasteless and odourless, soluble about 1 in 450 of water, 1 in 50 of cold, freely in hot alcohol. Melts at 125·5° C.

**Tablets**, 5 grains (0.32 Gm.). *Dose.*—1 to 6.

**Haustus Sulphonal, G.H.** Sulphonal 20 grains, Mucilage Mixture (*v.p.*77) 1 ounce.

Sulphonal a soporific, does not affect digestion, pulse, or temperature, especially in nervous subjects.—B.M.J. i./88,864,1113; ii./88,31,1278; ii./89,838,1333. Pr. xlii.11,54,131.

If dissolved in two-thirds of a tumblerful of boiling water, may be diluted to about a tumblerful with cold water, or stirred until sufficiently cool to drink and remain in solution. Best method of administration.— L. i./91,447; i./92,436; Pr. xlvii.189.

Is slow in action on account of slight solubility; 30 grains may be given in solution in 1 ounce of brandy with 2 ounces of boiling water added (=about 140° F.). Is useful in all cases except mania.—M.P.C. i./89,532.

Thirty grammes (463 grains) taken, caused 114 hours sleep, with one short interval; no bad effects.—L. i./89, 915; P.J. 1889,861. Other large doses. L.ii./95,149; i./97,661.

Good results in eight cases of chorea; in two unsuccessful.—L. ii./90,1048.

Trismus neonatorum cured by enemata of 3 grains, supplemented by internal use.—L. i./91,1060.

Useful in diabetes.—L. ii./90,938; M.C April 1891,46.

Toxic effects.—L. ii./90,907; i./92,436; B.M.J. ii./90,237,955; P.J. 1890,380; 1892,695; Th. Gaz. 1891,70; L. ii./96,1372; B.M.J. i./99,209.

Is not without risk if given in cases attended with considerable physical prostration. Two cases of alarming symptoms from doses of 20 grains given to convalescents from influenza.—L. i./92,488.

Chronic sulphonal poisoning; characteristic symptoms are disturbances of digestion and nervous system, ischuria, oliguria, and sometimes albuminuria.—B.M.J.E. i./93,23.

Relieves spasms and cramps in fractured limbs.—M.C. Feb. 93,334; P.J. i./96,418.

**Tetronal.**—*Syn.* Diethyl-methane-diethylsulphone.

*Dose.*—10 to 20 grains (0·65 to 1·3 Gm.). Best administered in cachets, followed by a draught of hot liquid.

Tablets, 5 grains (0·32 Gm.). *Dose.*—1 to 4.

In shining white crystalline tablets, or acicular crystals, melting at 185° F., odourless, with a camphoraceous bitter taste. Soluble 1 in 450 of water, 1 in 15 of alcohol.

Tetronal is allied to sulphonal, containing four ethyl groups in a molecule, two of which replace the two methyl groups in sulphonal, and it is stated that this doubles the hypnotic effect. The replacing of only one methyl group in sulphonal by ethyl forms

**Trional**—*Syn. Diethyl-sulfone-methyl-ethyl-methane.*

*Dose.*—10 to 30 grains (0·65 to 2 Gm.), in cachets, as above.

Tablets, 5 grains (0·32 Gm.). *Dose.*—1 to 6.

In minute shining crystals, soluble about 1 in 300 of water, slightly in alcohol.

**Haustus Trional, G.H.** 30 grains to Mucilage Mixture 1 ounce. **Trionalum. P. Aus. Add.**; **Methylsulfonalum, P.G. iv.**

Trional has a hypnotic action intermediate between those of sulphonal and tetronal.—P.J. 1889,161; B.M.J. i./90,87.

Tetronal and Trional useful in some cases where Sulphonal failed; their advantage consists in having fewer after-effects.—B.M.J.E. ii./90,22; P.J. 1890, 161; Th. Gaz. 1890,699.

Trial of Trional and Tetronal in mental disease. Tetronal the best sedative, Trional more effective in sleeplessness connected with neurasthenia and organic brain disease. Useless in that due to pain, and in morphine and cocaine habits. Ill effects very rare, and no tolerance established.—B.M.J.E. ii./92,31,36,75; ii./93,24,71. Both are more prompt in action than sulphonal, and are slightly cumulative. Toxicity appears to increase in proportion to the increase of ethyl groups.—B.M.J.E. ii./92,99; Pr.l.136; M.C. April,93,58; L. ii./93,758; ii./94,212; B.M.J. i./95,153.

Trional a particularly safe and efficient hypnotic; acts generally in ¼ hour. Failed in severe neuralgia, in alcoholic patients, and where mental and motor excitement extreme.—L. ii./92,1241; i./93,162,1150; i./95, 426; B.M.J.E. ii./93,15,44; Pr. lvi.87.

Trional in 15-grain doses to cause sleep in insanity useful and safe.—Pr. li.446.

For sleeplessness of children.—L. i./95,49.

## SULPHUR.

*Dose.*—20 to 60 grains (1·3 to 4 Gm.) in milk, treacle, with confection of senna, or as Pulvis Glycyrrhizæ Compositus, *v.p.*258.

This is official as **Precipitated Sulphur** and **Sublimed Sulphur.** From the latter is prepared Confectio Sulphuris and Unguentum Sulphuris: 1 to 9 of Benzoated Lard; it is also used for making the two following ointments, but **Precipitated Sulphur** in all these preparations, for use either internally or externally, being free from grittiness, is much to be preferred: it is in fine powder if genuine, sublimes without residue, and has not the glistening appearance of the old lac sulphuris (due to the presence of calcium sulphate).

**Confectio Guaiaci Composita, L.H. Chelsea Pensioner.**

*Dose.*—1 to 2 drachms (4 to 8 Gm.).

Guaiacum in powder 2, Sublimed Sulphur 3, Magnesium Carbonate 2, Ginger 1, Treacle, by weight, 12.

**Confectio Sulphuris.** (*Off.*).

*Dose.*—1 to 2 drachms (4 to 8 Gm.).

Sublimed Sulphur 100, Acid Potassium Tartrate 25, Tragacanth 1, Syrup 50, Tincture of Orange 12·5, Glycerin 37·5.

**Confectio Sennæ et Sulphuris, G.H., G.N.C.**

*Dose.*—1 to 2 drachms (4 to 8 Gm.).

Confection of Senna 1, Confection of Sulphur 1.

**Pulvis Guaiaci Compositus** (Chelsea Pensioner) St. George's Hosp. *Dose.*—20 to 40 grains.

Guaiacum Resin, Precipitated Sulphur, Heavy Magnesium Carbonate. Gum Acacia and Potassium Carbonate, equal parts.

**Jephson's Powder.** *Dose.*—60 grains.

Precipitated Sulphur 2, Guaiacum Resin 1. For tonsillitis, acne, and constipation.

**Trochisci Sulphuris** (*Off.*) *Dose.*—1 to 6.

Contain Precipitated Sulphur 5 grains, Acid Potassium Tartrate 1 grain, Tincture of Orange 1 minim, in each, with Sugar and Acacia.

Continued use beneficial in some chronic diseases of alimentary canal and liver, also of skin and articulations. —Pr. xliii.218; L. i./89,665; Th. Gaz. 1889,408.

Where sugar is to be avoided, may be given as

**Pastillus Sulphuris Compositus**, *v.p.*256.

**Unguentum Sulfuratum, P. Aus. Add.**

Soft Soap 60, Lard 30, Suet 30, to these melted and strained, sift in sulphur 30 and Prepared Chalk 5, add lastly Tar 30.

**Unguentum Sulphuris c. Hydrargyro, U.C.H.**

Sublimed Sulphur 30, Sublimed Mercuric Sulphide 2, Ammoniated Mercury 2, Olive Oil 12, Lard 54. To this may be added, to disguise its colour or odour, or increase its activity, either 2 grains of vermilion, 10 minims of eucalyptus oil, 10 grains of phenol, or 5 minims of creosote. Useful in scabies and allied skin diseases of doubtful diagnosis.

**Unguentum Sulphuris Hypochloritis.**

Sublimed Sulphur 12, Essential Oil of Almonds 2, Prepared Lard 84; mix, and add with quick manipulation Sulphur Chloride (Liquid) 2.

Keep in a stoppered bottle; is sometimes made double this strength, *i.e.*, with half the quantity of basis. Useful in acne, psoriasis, and scabies.

**Unguentum Sulphuris Iodidi** (*Off.*).

Sulphur Iodide 4, Glycerin 4; mix in a warmed mortar, and add Benzoated Lard 92.

**Tablets** of Sulphur Præcip. 5 grains with Potassium Acid Tartrate 1 grain.

## TEREBENUM.

### Terebene. (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).

A mixture of dipentene and other hydrocarbons, produced by the action of sulphuric acid on oil of turpentine and distillation. Sp. Gr. 0·862 to 0·866. Should not affect the plane of polarised light. Is colourless, and has a very agreeable odour resembling fresh-sawn pine wood. It is not miscible with water, but may be emulsified by mixing it with one-sixth its weight of tragacanth powder, then adding water and shaking well. It is a powerful yet agreeable antiseptic, disinfectant, and deodoriser.

**Capsules of Terebene** contain 5 and 10 minims each.

**Haustus Terebeni.**—Vict. Park.

Terebene 10 minims, Mucilage of Tragacanth 1 drachm, Glycerin 1 drachm, Cinnamon Water to 1 ounce.

**Mistura Apomorphinæ et Terebeni** *v.p.* 76.

**Vapor Terebeni, T.H.**

| | | |
|---|---|---|
| Terebene | ... ... ... | 40 minims. |
| Light Magnesium Carbonate | ... | 20 grains. |
| Distilled water | ... to | 1 ounce. |

A teaspoonful in a pint of water at 140°F. for a stimulant inhalation. For medicating the antiseptic respirators, 10 drops of a mixture of equal parts, Terebene, phenol, and spirit of chloroform, is often used.

A dark-coloured liquid, with an odour resembling but not so agreeable as the above, is sold as a disinfectant, under the name of Terebene, and must be distinguished from the official liquid as above described; it is a useful deodoriser, but, being insoluble in water, does not permeate decomposing substances.

The vapour of Terebene is a useful sedative and antiseptic inhalation in phthisis, and, administered internally at the same time in 5-minim doses, it destroys the virus of swallowed sputa, and lessens the risk of intestinal infection; useful also in dysentery.—B.M.J. ii./81,666.

Recommended for medicating the cotton wool of respirator for dry antiseptic inhalation in phthisis.—B.M.J. ii./82,7; Pr. xxix.94.

For winter cough, drops taken on sugar, and inhaled.—B.M.J.ii./85,1103,1184.

Report of Investigation Committee.—B.M.J.i./87,795.

Terebene may produce albuminuria in gouty kidney disease.—L. i./95,1434.

**Terpinum Hydratum, P.G.** — *Syn.* TERPENE HYDRATE; TERPINE; **Hydrate of Oil of Turpentine.**

*Dose.*—2 to 6 grains (0·13 to 0·4 Gm.) or more, in cachets, or pills, or suspended.

A derivative of oil of turpentine in prismatic crystals, resembling those of chloral hydrate, soluble in water about 1 in 250, more so if heated, soluble 1 in 10 of alcohol, and about 1 in 6 in oils; should have no odour of terebene; has been used with success in bronchitis, chronic and subacute; it assists expectoration in catarrhal affections.—M.T.G. ii./84,768; L. ii./85,404. Is also a diuretic.—L. i./88,464; B.M.J. i./93,457.

Lessens secretion in initial catarrh of phthisis; useful as a hæmostatic in bleeding from lungs.—Pr. xliv.457.

Cough and bronchial secretion, also neuralgia, relieved by 5-grain doses.

**Terpinol,** an agreeable aromatic liquid, is obtained by the action of dilute sulphuric acid on terpene.

Summary of results, if it disorder the stomach, give it during meals.—Th.Gaz. 1887,829.

## TEREBINTHINA CHIA.

### Chian Turpentine, P.L.

*Dose.*—5 to 10 grains (0·32 to 0·65 Gm.).

An oleo-resin flowing from the incised trunk of *Pistacia Terebinthus;* obtained from Chio. The use of this drug, which had fallen into desuetude, was, in 1880, revived as a remedy for cancer of the female generative organs. Its taste resembles that of mastiche; it is agreeable and free from the bitterness and acridity of the pinaceous turpentines.—P.J. 1880, 854,271.

**Mistura Terebinthinæ Chiæ.**

| | |
|---|---|
| Acacia in powder ... ... ... | 5 |
| Tragacanth in powder ... ... | 1 |
| Chian Turpentine ... ... ... | 5 |
| dissolved in | |
| Ether ... ... ... ... | 5 |
| Distilled Water *q.s.* to ... ... | 70 |

To the powders contained in a dry mortar, add the solution and mix; then add boldly water 10, triturate until emulsified, and add gradually water 40. Stir frequently until the ether has evaporated, transfer to a bottle, and add water *q.s.* to 70.

*Dose.*—3 drachms (10·5 Cc.) daily, in divided doses, after food—gradually increased to 9 drachms. Contains about 30 grains in 1 ounce. This mixture has now replaced the formulæ previously published, and in many cases of cancer proves of undoubted service.

**Pilula Terebinthinæ Chiæ.**

Chian Turpentine 3, Sublimed Sulphur 2. In grains for one pill, in grammes for fifteen: *dose*, 2 every 4 hours. Lycopodium may be added to preserve their shape.

**Pilula Terebinthinæ et Zinci, L.H.**

Chian Turpentine 4 grains, Zinc Sulphate 1 grain. Make 1 pill: *dose*, 1 to 3 pills.

Cases of cancer of the female generative organs successfully treated by Chian turpentine.—L. i./80,477, 582; ii./80,553,955; i./81,155; ii./81,1033; Pr. xxv.45.

Its failure in the treatment of cancer.—L. i./80,1019; L. ii./81,1155; L. ii./86,895.

Letter on production of.—L. ii./80,588; P.J. 1880,271.

Sarcoma, case of, benefited by.—L. i./82,866.

Beneficial effect in cases of cancer of mouth and tongue.—B.M.J. i./88,895.

## THAPSIA.

The root of *Thapsia garganica*, an umbelliferous plant grown in Algeria (allied to the Silphion of the ancients); when exhausted with alcohol yields a resin which is employed in the French Codex to form a rubefacient plaster, Emplastrum Thapsiæ; Fr. Sparadrap de Thapsia, Emplâtre Révulsif de Thapsia.

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## THEOBROMA.

The seeds of Cacao, *Theobroma Cacao*. When heated and deprived of husk and membrane, these yield cocoa-nibs. The nibs ground, and most of the oil pressed out, produce, when reduced to powder, the best forms of cocoa for use as a beverage.

**Oleum Theobromatis** (*Off.*).

The concrete oil of the seeds, expressed by means of heat. Melting at 83° to 93° F., below the temperature of the body, is much used for suppositories.

**Pasta Theobromatis**, **Chocolate.**

This is made by grinding the nibs into a paste, with sugar and vanilla or other flavouring added; it should contain not more than 50 per cent. of sugar and about 25 per cent. of fat (*Oleum Theobromatis*), and be free from gum, added starch, or other admixture.

The writer has used chocolate for the preparation of medicated chocolate tablets. On account of its agreeable flavour and the preservative action of its fat and sugar, it forms a useful basis for administering many medicines. The solvent action of its fat renders it eminently useful for fixing Nitroglycerin, Menthol, and alkaloids, such as Cocaine, Caffeine, and Apomorphine; also for Pepsin and Santonin and preparations of bismuth and iron. **Cocoa** likewise disguises the taste of many drugs and can be compressed into **Tablets** combined with Agaricin $\frac{1}{4}$ gr., Aloin $\frac{1}{2}$ gr., Arsenious Acid $\frac{1}{60}$ gr., Calomel $\frac{1}{10}$ gr., Grey Powder $\frac{1}{2}$ gr., Podophyllum Resin $\frac{1}{10}$ gr.

**Theobromina, Theobromine.**

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

An organic base existing in the seeds of the above. It is a white crystalline powder, sparingly soluble in water, alcohol and ether. It is allied to Caffeine, being chemically viewed as dimethyl-xanthine, and Caffeine as trimethyl-xanthine.—See Caffeine, *v.p.*116.

Tri-Sodium Phosphate has a solvent action on the alkaloid, and by its employment 2 per cent. solutions may be obtained.—P.J. ii./99,11.

**Diuretin.**—*Syn.* THEOBROMINUM NATRIO-SALICYLICUM, **P. Aus. Add.; P.G.iv.**

*Dose.*—5 to 15 grains (**0·32 to 1 Gm.**).

Under this name is sold a sodio-salicylic compound of theobromine, containing about 50 per cent. of sodium-theobromine (or of *Mono*-Methyl-Xanthine); it is a white powder, freely soluble in water. Is diuretic, without affecting nervous system and causing sleeplessness.—L. i./90,42; ii./90,783; P.J.1889,501; Th. Gaz. 1890,99; L. i./96,1132; B.M.J.E. ii./00,3.

**Tablets** contain 5 grains of Diuretin.

A stronger diuretic than caffeine, and effects last longer; toleration not soon established; should be avoided in cardiac degeneration, especially with albuminuria.—Th. Gaz. 1890,760; L. ii./90,838.

Scarlatinal dropsy of children; a safe diuretic.—L. ii./92,212.

Of great value in cardiac and renal dropsy, seldom of use in ascites of hepatic origin; often causes diarrhœa and sometimes vomiting.—B.M.J.E. ii./92,87; i./93, 63,91,95. Recommended in ascites.—B.M.J.ii./92,1105.

Urinary troubles coincident with paraplegia relieved.—B.M.J.E. ii./93,80.

Poisonous effects follow three doses of 15 grains each.—L. ii/95,1268.

**Iodo-theobromine.**

*Dose.*—2 to 10 grains (**0·13 to 0·65 Gm.**).

Sodio-theobromine iodide, containing about 40 per cent. of theobromine in combination with iodide and salicylate of sodium. A white powder, soluble in water, recommended as a good diuretic and as a stimulant to cardiac systole, increasing blood pressure. Useful in cirrhosis of liver and acute nephritis.—B.M.J. ii./94,1190.

**Uropherin.**—*Syn.* **Lithium-Diuretin.**

*Dose.*—5 to 15 grains (**0·32 to 1 Gm.**).

A white powder, soluble 1 in 5 of water. Is a compound of theobromine-lithium and lithium salicylate. A iuretic, with little action on the heart.—Am.M.S.B. 893,1090.

This is salicylic uropherin ; a similar benzoic uropherin s also prepared.

## THUJA.

### Arbor Vitæ.

From the young shoots of *Thuja occidentalis* a ncture is prepared equal in strength to one of the dried ops in 10 of 20 O.P. spirit.

*Dose.*—2 to 5 minims (0·12 to 0·3 Cc.).

Like savin, Thuja has an irritating action on the skin, nd has been employed to remove warts and fungoid ranulations from ulcers; internally for amenorrhœa, ulmonary catarrh, and worms.—Rep. Pharm. 1886,374.

## THYMOL (*Off.*).

*Dose.*—½ to 2 grains (0·032 to 0·13 Gm.), in pills ith powdered soap and a trace of alcohol, or in oily or queous solution.

A crystalline substance obtained from the volatile oils f *Thymus vulgaris*, *Monarda punctata* and *Carum opticum* (*v.p.*xxviii.). In large transparent rhomboidal rystals melting at 111° F. and having the odour of thyme, n aromatic peppery taste, is caustic to the skin and ery irritating to the mouth and mucous membrane. oluble 1 in 1,500 of water, 1 in 200 of glycerin, 1 in 8 f alcohol and glycerin, equal parts; soluble in fats nd oils, and freely so in alcohol, ether, acetic acid, and austic alkaline solutions. Thymol has been synthetically repared from Cuminol, a constituent of oil of cumin. hymol rubbed with an equal weight of Menthol forms n oily liquid (see Menthol); with 3 parts of Thymol nd 2 Chloral Hydrate, equal parts of Thymol and amphor, and equal parts of Thymol and Phenol, milar liquefactions take place.

Thymol is a powerful antiseptic and antiputrefactive ; s preparations have been much used, like Phenol, for urgical dressings.

**Liquor Thymol.** 1 in 800 of warm water.

**Ophthalmic Discs of Thymol** contain $\frac{1}{1000}$ grain (0·065 milligramme) combined with gelatin.

**Pastillus Thymol** is prepared, containing $\frac{1}{32}$ of a grain (0·002 Gm.), *v.p.*256.

**Spiritus Thymol.**

*Dose*, 3 to 15 minims (0·18 to 0·9 Cc.).

Thymol 1, Alcohol (90 per cent.) *q.s.* to 10; is convenient for dispensing, and for medicating the wool of antiseptic respirators.

**Thymol Gauze, Carbasus Thymol.**

Thymol 16, Spermaceti 500, Resin 50. Cotton gauze is impregnated with this mixture, liquefied by heat, so as to increase its weight 50 per cent. and contain 1 per cent. of Thymol.

Is used as an antiseptic dressing like carbolic gauze.

**Volckmann's Thymol Solution.**

Thymol 1, Alcohol 20, Glycerin 20. Dissolve and add to Water 1,000. Used as a spray and antiseptic lotion; does not produce eczema as carbolic lotion does.—Br. ii./79,xlviii.; Pr. xvii.203.

**Unguentum Thymol.**

Is made 5 to 30 grains to the ounce of Vaseline, Petroleum Cerate, or Lard, the strength depending on the purpose for which it is applied. It is important that the Thymol should be dissolved in the basis by the aid of heat, and not made by simple mixture, as particles of undissolved Thymol produce great irritation; 10 grains dissolved in an ounce of Vaseline applied to the skin keeps off gnats, mosquitoes, &c.

**Vapor Thymol, T.H.**

Thymol 6 grains, Rectified Spirit 1 drachm, Light Magnesium Carbonate 3 grains, Water to 1 ounce. A teaspoonful to a pint of water at 140° F. for inhalation; useful in pharyngitis and laryngitis when associated with exanthemata.

**Thymol Carbonate.**—*Syn.* Thymotal.

*Dose.*—5 to 15 grains (0·32 to 1 Gm.).

A nearly tasteless, colourless, crystalline powder. Is not dissolved by the stomach and therefore proves valuable as a remedy for the intestinal worms, named anchylostoma duodenale, common in Italy.—Amer. Jour. Ph. 1901,143.

## *References to Thymol.*

A powerful germicide and antiseptic. A cultivating liquid is rendered sterile by 1 part of Thymol in 2000. —B.M.J. i./78,2. Antiputrescent 1 in 1000.—B.M.J. ii./75,680.

In skin diseases a stimulant ointment 5 to 20 grains to the ounce of vaseline or lard is useful in the later stage of eczema, and dry later stages of psoriasis, and as a parasiticide in those of a fungoid nature.—B.M.J. i./78,225; i./79,14; Br. i./78,199.

Chemical properties and uses.—P.J. i./78,391.

In burns, Lotion of Thymol 1 in 1000, and Thymolised Linseed Oil 1 in 100, applied with good results.—Pr. xxvii.268.

Thymol 1, Ether 10, and Spirit 5, or Thymol 1, Petroleum Oil 18; used as pigments in ringworm of the scalp, whilst acting as parasiticides they dissolve the fat, loosen the hairs, and thus help epilation.— B.M.J. i./82,901; L. i./81,241. A 2½ to 5 per cent. solution in a mixture of chloroform and olive oil also useful.

A valuable remedy for nematoid worms.—L. ii./92, 1156,1357; ii./94,1273; ii./97,659.

Thymol in 1 per cent. solution (Alcohol 3, Water 7), recommended vaporised in pertussis.—P.J. i./97,361.

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# TINCTURÆ.
## Tinctures.

Two processes are prescribed for the preparation of official tinctures:—

(i.) **Percolation.**—The drugs in a suitable state of omminution are moistened with the menstruum, and, fter twenty-four hours, percolated with more of the ame, until about three-fourths of the required quantity s obtained. The marc is pressed, the expressed liquid iltered, and added to the percolate. The volume of incture is then made up to the prescribed quantity by dding menstruum *q.s.*

(ii.) **Maceration.**—The drugs are agitated freuently with the whole of the menstruum, in a closed essel, during seven days, the liquid strained, the marc ressed, the product mixed with the strained liquid, and he whole filtered, if necessary, without further addition f liquid.

# TRAGACANTHA.

## Tragacanth (*Off.*).

*Dose.*—2 to 10 grains (0·13 to 0·65 Gm.) or more.

From *Astragalus gummifer* and some other species of *Astragalus*, known in commerce as Syrian Tragacanth.

**Gelanthum** (Unna).

Heat in a steam bath Tragacanth 110 grains, Gum Acacia 30 grains, Gelatin 120 grains, and Distilled Water 10 ounces, for 4 hours; press the paste through muslin, mix well and add Glycerin 6 drachms, heat again in a water bath, for an hour and add Distilled Water (containing in solution Thymol ¼ grain) *q.s.* to 12 ounces.—Phar. Formulas. Used as a basis for various antiseptics and combinations for skin medication.

**Glycerinum Tragacanthæ** (*Off.*).

Tragacanth, in powder 1, Glycerin 3. Mix and add Water 1. Is a useful pill excipient, *v.p.* 391.

**Glucantha, G.H.** Pill excipient.

Tragacanth 240 grains, Water 240 minims, Syrup of Glucose 2 (fluid) ounces.

**Linimentum Exsiccans.** *Syn.* **Bassorin Paste.**

Tragacanth 5, Glycerin 2, Alcohol (90 per cent.) 10, Water to 100. In the alcohol contained in a wide-mouthed bottle diffuse the tragacanth, and add the water, then add quickly the glycerin, diluted with as much water, and shake well. Alcohol is necessary to keep the preparation. Quickly dries on skin, producing pleasant cooling sensation. May be medicated with any drug.—M.C. Nov. 1891,131; Ed. M.J. 1891,482.

**Bassorin No. 1. St. John's Hosp.**

Tragacanth 5, Glycerin 2, Water 93. No. 2 contains Boric Acid 10 per cent.; No. 3, Salicylic Acid 5 per cent.; No. 4, Chrysarobin 5 per cent.; No. 5, Hydronaphthol 5 per cent.; No. 6, Ichthyol 30 per cent.; No. 7, Resorcin 30 per cent.; No. 8, Precipitated Sulphur 30 per cent.; and No. 9, Thioresorcin 5 per cent.

**Mucilago Tragacanthæ** (*Off.*).

*Dose.*—1 drachm to 1 ounce (3·5 to 30 Cc.) or more.

Improved formula suggested by the writer.—P.J. 1870,520.

Alcohol (90 per cent.) 120 minims. Put in a 20-ounce dry bottle and add Tragacanth, in powder, 60 grains.

ake till evenly moistened and add Distilled Water *q.s.* 10 ounces. Shake again quickly to make a uniform ucilage. This keeps much better than mucilage of acia—does not quickly turn sour, and is much more scous. One part to 3 of aqueous fluid will suspend avy insoluble powders.

**ulvis Tragacanthæ Compositus** (*Off.*).

Tragacanth 1, Gum Acacia 1, Starch 1, Sugar 3.

*Dose.*—20 to 60 grains (1·3 to 4 Gm.). Is used as st preparation, 10 grains to 1 oz., specially useful for smuth oxynitrate.

## TRIMETHYLAMINA.

**rimethylamine.**—*Syn.* SECALIN; PROPYLAMINE(?)

*Dose* of the solution.—20 to 60 minims (1·2 to 3·5 c.) every 2 to 4 hours.

A 20 per cent. aqueous solution of this tertiary onamine, at one time confused with Propylamine, is etameric with it, is alkaline, colourless, has a strong, rring-brine odour, and is miscible with water. Used r acute articular rheumatism is found to relieve the in and fever; its taste may be disguised by sweetened eppermint water or syrup of orange.

**rimethylaminæ Hydrochloridum.**

*Dose.*—2 to 3 grains (0·13 to 0·2 Gm.) 3 to 5 times day.

Is obtained by neutralising the solution with hydro-loric acid and evaporating to crystallization. It is deliquescent prismatic crystals, very soluble in water, s a slight fishy odour, and a pungent, saline taste; ay be given in solution, but more agreeably in a pill ith powdered althæa root and glycerin of tragacanth, d covered with sandarach solution.

In acute rheumatism, given with excellent effects, pecially when begun early.—Pr. x.385; L. i./75,67.

Results of 32 hospital cases, it is a cardio-vascular dative, limiting nutrition, and promoting expectoration, eful in acute attacks of rheumatism.—Pr. xxiii.365

Physiological experiments, it increases functions of the rd and accelerates the heart's action; poisonous doses ll by cardio-pulmonary asphyxia.—M.T.G. ii./74,240.

Employed in 14 cases of acute rheumatism with success, also of value as a liniment; 1 to 3 of glycerin for rheumatic pains.—M.R. 1875,25.

**Aminol.**

A liquid disinfectant containing trimethylamine and other amines, prepared from herring brine. Two forms are supplied, Solution D. for general disinfectant purposes, and Solution R. for remedial use. *Dose.*—A tablespoonful, and diluted with two parts of water for lotion, gargle, or spray. Tried in diabetes.—B.M.J. ii./92,1313,1365,1408; i./93,590,608.

As a germicide.—L. i./95,120.

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## TRITICUM, U.S.

**Couch Grass.**—*Syn.* Agropyrum I.C. Add.

The rhizome or underground stems of *Agropyrum repens*, Dog-grass, or Quitch. Contains gummy and saccharine demulcent principles. Is diuretic and emollient; used in bladder and kidney affections.

**Decoctum Tritici.** 1 to produce 20.

*Dose.*—2 to 8 ounces (60 to 240 Cc.).

**Extractum Agropyri Liquidum. I.C. Add.**

*Dose.*—1 to 2 drachms (3·5 to 21 Cc.).

Triticum, cut small 20; digest 3 successive times in Boiling Water 120. Evaporate the infusions to 15, add Alcohol (90 per cent.) 5, mix, and set aside for 24 hours. Then filter, and add to the filtrate Alcohol (90 per cent.) *q.s.* to produce 20.

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## TRITURATIONES.

### Triturations, U.S.

**General Directions.**—Take of the substance 1, Milk Sugar 9. Mix equal quantities first and triturate together, adding more milk sugar from time to time, until the whole is added, and an impalpable powder is produced. By thus triturating, insoluble powders, such as Arsenious Acid, are rendered more easily and probably completely assimilated, and further, the apportionment of minute doses is more accurately effected. Triturates may be dispensed with other ingredients in either pills or powders or flavoured and coloured with Pulvis Rosæ Compositus, *v.p.*359. The only official Triturate is Trituratio Elaterini 1 in 10 U.S. The representative of this n B.P. is Pulvis Elaterini Compositus 1 in 40. The ollowing list may be kept prepared 1 in 10 (10 per ent.) :—

| | | | | |
|---|---|---|---|---|
| rituratio Acidi Arseniosi ... ... | $\frac{1}{6}$ | to | $\frac{2}{3}$ | grain. |
| rituratio Antimonii Tartarati ... | $\frac{1}{3}$ | ,, | 20 | ,, |
| rituratio Atropinæ Sulphatis ... | $\frac{1}{20}$ | ,, | 1 | ,, |
| rituratio Cocainæ Hydrochloratis ... | $\frac{1}{2}$ | ,, | 5 | ,, |
| rituratio Elaterini ... ... | $\frac{1}{4}$ | ,, | 1 | ,, |
| *ulvis Elaterini Compositus, B.P.* 1 in 40 | 1 | ,, | 4 | ,, |
| rituratio Ergotininæ Citratis ... | $\frac{1}{18}$ | ,, | 3 | ,, |
| rituratio Ferri Arsenatis ... ... | $\frac{5}{8}$ | ,, | $2\frac{1}{2}$ | ,, |
| rituratio Gelseminæ Hydrochloratis ... | $\frac{1}{6}$ | ,, | $\frac{1}{2}$ | ,, |
| rituratio Hydrargyri cum Creta ... | 10 | ,, | 50 | ,, |
| rituratio Hydrargyri Perchloridi ... | $\frac{5}{16}$ | ,, | $\frac{5}{8}$ | ,, |
| rituratio Hydrargyri Subchloridi ... | 5 | ,, | 50 | ,, |
| rituratio Morphinæ Hydrochloridi ... | 1 | ,, | 3 | ,, |
| rituratio Picrotoxini ... ... | $\frac{1}{10}$ | ,, | $\frac{2}{5}$ | ,, |
| rituratio Sodii Arsenatis ... ... | $\frac{1}{4}$ | ,, | 1 | ,, |
| rituratio Strophanthi (1 grain 10 minims Tinct.) ... ... | $\frac{1}{2}$ | ,, | $1\frac{1}{2}$ | ,, |
| rituratio Strychninæ Hydrochloridi ... | $\frac{1}{6}$ | ,, | $\frac{2}{3}$ | ,, |
| rituratio Strychninæ Nitratis ... | $\frac{1}{6}$ | ,, | $\frac{2}{3}$ | ,, |
| rituratio Strychninæ Sulphatis ... | $\frac{1}{6}$ | ,, | $\frac{2}{3}$ | ,, |

The more active medicines are diluted 1 in 50 (2 per nt.), and are termed **Levigations** (Levigationes). hey are as follows :—

| | | | | |
|---|---|---|---|---|
| evigatio Aconitinæ ... ... | $\frac{1}{5}$ | to | $\frac{5}{6}$ | grain. |
| evigatio Digitalinæ Crystallisatæ ... | $\frac{1}{5}$ | ,, | $\frac{5}{6}$ | ,, |
| evigatio Digitalini Puri ... ... | 1 | ,, | 2 | ,, |
| evigatio Hyoscinæ Hydrobromatis ... | $\frac{1}{4}$ | ,, | $\frac{1}{2}$ | ,, |
| evigatio Hyoscyaminæ ... ... | $\frac{1}{2}$ | ,, | 1 | ,, |
| evigatio Potassii Cantharidatis ... | $\frac{1}{8}$ | ,, | $\frac{1}{4}$ | ,, |

# TROCHISCI.
## Lozenges.

Lozenges are now officially prepared with five different vourings. Those with **Fruit Basis** are prepared th Black Currant paste, but are harder than the Fruit zenges of commerce—viz., Benzoic Acid ($\frac{1}{2}$ grain), onic Acid ($\frac{1}{2}$ grain), Eucalyptus Gum (1 grain), aiacum Resin (3 grains), Ipecacuanha ($\frac{1}{4}$ grain), tract of Krameria (1 grain), and Extract of Krameria grain) combined with Cocaine Hydrochloride (Gr. $\frac{1}{20}$).

**Rose Basis.**—Compound Bismuth (Carbonate 2 grains), Potassium Chlorate (3 grains), and Sodium Bicarbonate (3 grains).

**Simple Basis.**—Catechu (1 grain), Reduced Iron (1 grain), and Santonin (1 grain).

**Tolu Basis.**—Phenol (Carbolic Acid) (1 grain), Morphine (Hydrochloride $\frac{1}{30}$ grain), and Morphine Hydrochloride ($\frac{1}{36}$ grain) combined with Ipecacuanha ($\frac{1}{12}$ grain).

**Orange** (Tincture) is used to flavour Sulphur Lozenges (5 grains).

## UNGUENTA.

### Ointments.

The principal **Bases** employed in preparing the official Ointments are :—**Lard**, **Benzoated Lard**, and **Lard** with **Oleic Acid** (for Alkaloids) ; **Paraffin Soft** (**White** or **Yellow**), and **Hard Paraffin**, and their combination **Paraffin Ointment** (**White** or **Yellow**) ; and **Wool Fat** (**Hydrous**).

In addition, combinations of **Almond Oil**, **Beeswax** (**Yellow and White**), **Camphor**, **Glycerin**, **Oleic Oil**, **Spermaceti**, and **Prepared Suet** are ordered.

## URANII NITRAS.

### Uranium Nitrate (*Off.*).

*Dose.*—$\frac{1}{2}$ to 5 grains (0·032 to 0·32 Gm.)

Is in large lemon-yellow slightly efflorescent prismatic crystals. It is soluble in half its weight of water, and has an astringent styptic taste. Its solution, 10 grains to an ounce, is used as a throat spray, and internally it has been given with good effect in diabetes in dose of 1 to 5 grains.

**Tablets**, 1 grain (0·065 Gm.). *Dose.*—1 to 5.

Is liable to produce inflammation of the intestines and kidneys, sugar in urine, and failure of nervous power.—Th. Gaz. Oct. 1888.698.

**Uranii et Quininæ Chloridum**, **Uranium and Quinine Chloride.**

*Dose.*—3 to 6 grains (0·2 to 0·4 Gm.) thrice daily.

In yellow minute granular crystals, soluble 1 in about 100 of water.

This salt and the nitrate are useful in diabetes, in oses of 1 to 2 grains, freely diluted, after food; do ot disturb digestion or cause intestinal irritation.—M.J. ii./95,467.

Five to 15 grains of nitrate are proper doses in cases diabetes.—B M J. ii./97,1044.

# URETHANE.

*Syn.* ETHYL CARBAMATE.

*Dose.*—10 to 60 grains (0·65 to 4 Gm.).

Is in colourless prismatic crystals, easily soluble in ater, tasting like nitre, inodorous; used as a hypnotic; oduces normal sleep; heart is not affected. Especially itable for children, cases of delirium tremens, and in ute mania.—L. ii./85,647; i./86,370; Pr. xxxv. 275, 8,417.

Proved more useful than chloral in tetanus.—L. i./86, 12.

Is antagonistic to strychnine.—L. ii./86,31.

Insomnia of cardiac disease.—L. ii./85,1167.

Other recommendations.—L. i./86,370; B.M.J. 86,164; ii./86,468,640; i./89,119.

Urethane retards digestion but not decomposition.—M.J. ii./91,115.

ablets. 5 grains (0·32 Gm.). *Dose.*—2 to 12.

**uphorin.** — *Syn.* PHENYL-URETHANE; CARBANILIC ETHER.

*Dose.*—3 to 6 grains (0·2 to 0·4 Gm.) 3 to 5 times ly, preferably dissolved in Marsala or Malaga.

In white acicular crystals, slightly soluble in water, ely in alcohol, with a faint aromatic odour and slightly rid taste. Retards alcoholic fermentation and destroys thogenic and other bacilli. Large doses weaken pulse d respiration and lower temperature, but do not affect art and blood pressure.

An energetic antipyretic; fall of temperature companied by perspiration, but no other unpleasant mptoms. A useful analgesic in acute rheumatism, uralgia, and nervous headache. As ointment or wder checked suppuration and removed bad odour in philitic ulcerations.—P.J. 1889,501; 1890,377; L.

ii./91,29,33; B.M.J.E. ii./90,22; ii./92,23; i./93,24; M.C. Feb. 1892,316.

Special use in relief of orchitis.—B.M.J. ii./98,1055.

**Hedonal**, **Methyl-propyl-carbinol Urethane.**

*Dose.*—8 to 15 grains (0·5 to 1 Gm.) in cachets o suspended in water.

The Urethane of a secondary amyl alcohol in whit micro-crystalline powder with saline taste, slightl soluble in water, more so in dilute alcohol; used as hypnotic in neurasthenia and hysteria in women, saf and free from ill effects. Will produce a sleep of hours' duration.—P.J. ii./00,210; B.M.J.E. ii./00,12 P.J. ii./00,754.

**Uralium.**—*Syn.* URAL. A compound of chlora and urethane, in colourless shining lamellar crystals, ha been recommended as a hypnotic in doses of 15 to 4 grains.—B.M.J. i./89,609; Th. Gaz. 1889,283,348, 688. Uncertain in effects, disagreeable to take, ofte followed by nausea and disorders of digestion.-L.i./91,46.

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**Urginea**, *v.p.*xxix.

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# VERATRI VIRIDIS RHIZOMA.

## Green Hellebore Rhizome.

*Dose,* in powder.—1 to 5 grains (0·065 to 0·32 Gm

The dried rhizome and rootlets of *Veratrum viride*, imported from the United States. Its powder excites sneezing, and it contains the alkaloids Jervine, Veratrine and Veratroidine. The rhizome of *V. album* and a Win prepared from it were official in P.L. 1851. It possesses similar properties to *V. viride.* They are recommended as cardiac, arterial, and nervous sedatives. They are said not to be narcotic, but they lower the pulse, respirations, and temperature of the body. Acts on the heart as a powerful cardiac poison analogous to digitalis, but is much more rapid in its action; does not lower the temperature in health.—Pr. i./70,211; L.i./87,951. For puerperal eclampsia is valuable from its control over increased arterial tension and cerebro-spinal excitement. —L. i./98,146; ii./98,1777.

**Tinctura Veratri Viridis, B.P.C.** (**B.P.** 1885.)
1 in 5 of alcohol 90 per cent.
*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.).
Useful in apoplexy from hæmorrhage or effusion, and or cerebral complications in erysipelas.

## VERATRINA.

## Veratrine (*Off.*).

*Dose.*—$\frac{1}{70}$ to $\frac{1}{16}$ grain (0·0009 to 0·004 Gm.), n a pill carefully triturated with milk sugar and lycerin of tragacanth. An alkaloid, or mixture of lkaloids, principally Cevidine with some Cevine, btained from Sabadilla or Cevadilla seeds—*Schœnoaulon officinale* — in white or greyish white ulverulent masses; it powerfully irritates the nostrils nd excites sneezing; taste bitter and acrid. Nearly nsoluble in water; soluble 1 in 11 of 90 per ent. alcohol; 1 in 6 of ether; readily and almost comletely soluble in diluted acids (a little resin is left). t is poisonous, but has been used as an antipyretic and rterial sedative in fevers and acute inflammations—re-embles Aconitine in its general effects—irritates mucous nembranes, causes sneezing, pricking and twitching of ne skin, given in large doses it causes vomiting and urging; sometimes given for neuralgia, spasm, rheumasm and gout, but its principal use is externally in the rm of ointment for neuralgic pains.—L. i./62,54.

**Oleatum Veratrinæ, U.S.**
Veratrine 2, Oleic Acid 98 (by weight). Useful for euralgia. Too weak, 10 per cent. preferable.

**Unguentum Veratrinæ** (*Off.*).
Veratrine 1, Oleic Acid (by weight) 4 (1 grain=2 rops); warm gently to dissolve, add lard 45. It excites sensation of warmth and pricking, followed by coldness; applied for some time, it will produce a red rash. ike aconitine ointment, it is useful for neuralgia. The intment is often made stronger, 20 to 40 grains to he ounce; it proves very useful in the treatment of iatica, rubbed into the painful part for 20 to 30 inutes, 2 or 3 times a day, also useful in the neuralgic ain consequent on shingles.

In neuralgia and nervous diseases $\frac{1}{18}$ grain twice a day does good, also relieves palsy from cold.—L. i./48,501.

Physiological action.—M.T.G. ii./60,295, and R.

Alcoholic tremor, and that of sclerosis were relieved by $\frac{1}{130}$ grain doses four times a day.—L. ii./83, 118.

Internally and externally, recommended for pruritus.—M.T.G. i./84,509; Pr. xxxiii,61.

## VERBASCUM THAPSUS.

### Great Mullein.

This indigenous scrophulariaceous plant is much used as a household remedy on the Continent, and a sweetened decoction in milk, 1 in 5 of fresh leaves or about 1 in 40 of dried, is employed in Ireland in incipient phthisis for its weight increasing and curative power.—P.J. 1883 309; B.M.J. ii./84,907,1013; L. i./85,1051.

Smoking the dried leaves controlled racking cough in a case of phthisis.—B.M.J. i./84,664.

**Tinctura Verbasci.** 1 in 8 of proof spirit.

*Dose.*—20 to 60 minims (1·2 to 3·5 Cc.).

## ZINCUM.

### Zinc (*Off.*).

**Calamina Præparata**, *v.p.*315.

**Zinci Boras**, Zinc Borate.

In white amorphous powder; applied in the form of ointment is used for eczema.

**Zinci Bromidum**, Zinc Bromide, U.S

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.) in water.

A white granular powder, very deliquescent, odourless, having a sharp saline and metallic taste, and a neutral reaction, very soluble in water and alcohol. As both bromides and zinc salts have been used with success in epilepsy, this salt has been given with the intent of combining the action of both.

Zinc Bromide is borne badly, although Zinc unquestionably deserves some of the repute it has enjoyed as an anti-epileptic.—B.M.J. i./80,548.

Diminishes sensation and causes somnolence.—L. i./85,722.

**inci Chloridum, Zinc Chloride** (*Off.*).

**austicum Zinci Chloridi.** St. John's Hosp.

Zinc Chloride 4, Solution of Antimony Chloride 2, tarch 1, Glycerin *q.s.*

**ollodium Zinci Chloridi.** 1 in 6, *v.p.*199.

**uttæ Zinci Chloridi, R.O.H.** 0·5 in 100.

**uttæ Zinci Chloridi cum Cocaina, R.O.H.**

Zinc Chloride 0·5 and Cocaine Hydrochloride 2 in 100.

**iquor Zinci Chloridi** (*Off.*). Sp. Gr. 1·530.

Four minims of this solution = 3 grains of solid inc Chloride. On diluting this Liquor, or making a olution of the salt, with water, generally a white ecipitate (Basic Oxychloride) is formed, which may be dissolved by adding a trace of hydrochloric acid.

Zinc Chloride is a powerful caustic, antiseptic, and tiputrescent. The Liquor, or an impure solution nown as Sir W. Burnett's Disinfecting Fluid, is a owerful deodorising antiseptic solution; it is odourless ut *very poisonous*) and specially useful for disinfect-g the utensils, &c., in the sick-room of fever patients; quickly permeates or disintegrates all organic matter *ith which it comes in contact.*

**asta Zinci Chloridi, Mid. H.; R.O.H.**

| | | |
|---|---|---|
| Zinc Chloride | ... ... | 16 ounces. |
| Opium, in Powder | ... | 1½ ounces. |
| Hydrochloric Acid | ... | 6 drachms. |
| Boiling Water | ... to | 1 pint. |

acerate the Opium in 12 ounces of the water for 12 ours, add the acid, and filter, dissolve the Zinc Chloride the filtered liquid, and add water *q.s.* to produce pint.

| | | |
|---|---|---|
| To above solution | ... ... | 1 ounce. |
| Add Wheaten Flour... | ... | 120 grains. |

ix and heat in a water bath until of a proper consist-ice. It is used as a caustic for cancerous sores, spread lint, one or more layers being used. Weaker and mer applications containing more flour are also used. inc Chloride pounded with an equal weight of oil of ieobroma is sometimes used, and may be formed into irts, spear or rod-shaped, for insertion into wounds or ores.

**Darts,** spear shaped, of Zinc Chloride are also ade, composed of this salt, with an equal weight of gutta-percha, for insertion into wounds and lancet incisions.

**Solutio Zinci Chloridi Antiseptica.**

Zinc Chloride 1, Distilled Water 11.

This solution produces such an antiseptic effect upon the tissues of a recent wound, that, as the result of a single application, the cut surface, though not presenting any visible slough, is rendered incapable of putrefaction for 2 or 3 days, notwithstanding its exposure to septic influence. It is particularly useful in tongue cases, after the removal of tumours of the jaws, or operations about the anus, and after amputations or excisions in parts affected with putrid sinuses; it is freely applied on a piece of lint to all textures including bones, and injected into sinuses.—B.M.J. ii./68,53.

Zinc Chloride has the property of rendering a wound aseptic which has already become septic. An 8 per cent. solution is more energetic than a 5 per cent. solution of carbolic acid, and is useful in checking parenchymatous hæmorrhage after operations. — M.R. 1882,405.

One per cent. solution injected into ranula and ganglions is painless; the cysts harden.—Y.B. 1891,202.

Zinc Chloride advocated as a remedy for tuberculosis by Lannelongue; a solution is injected deeply into the tissue surrounding tuberculous foci, causing sclerosis, and the activity of the bacillus is suspended, if not destroyed.—L. ii./91,94,133,203; i./92,1057; B.M.J. ii./91,86; B.M.J.E. ii./91,103; i./93,16; Pr. xlvii. 224; P.J. 1891,82.

Three cases of early pulmonary tuberculosis improved; tends to promote formation of fibrous tissue.—L. i./93, 377.

Subcutaneous injections may cause sloughing.—L. ii./94,41.

Zinc Chloride Solution as an interstitial injection for new growths has been used with some success.—B.M.J. i./93,694.

**Zinci Citras,** Zinc Citrate.

*Dose.*—3 to 12 grains (0·2 to 0·8 Gm.).

An amorphous white powder with a sharp metallic taste, not perfectly soluble in water, as it is a basic salt. Used for epilepsy.

**inci Cyanidum, Zinc Cyanide.**

*Dose.*—$\frac{1}{10}$ to 1 grain (0·0065 to 0·065 Gm.).

An insoluble white powder, is of value in heart seases; resembles digitalis in its action; relieves lpitation and irregularity of action.—L. ii./87,277; M.J. ii./87,421; Th. Gaz. Jan. 1889,71.

Possesses antiseptic properties, but not equal to the

**ercuro-Zinc Cyanide,** *v.p.*265.

—L. ii./89,943; B.M.J. ii./89,1028.

**inci et Potassii Cyanidum.**

*Dose.*—$\frac{1}{10}$ to 1 grain (0·0065 to 0·065 Gm.).

Is a soluble cyanide, possessing all the properties of ydrocyanic acid in a stable form.

**inci Lactas, Zinc Lactate.**

*Dose.*—3 to 30 grains (0·2 to 2 Gm.).

Is in white crystalline crusts, with a sharp metallic ste, soluble 1 in 60 of water, but insoluble in alcohol. his salt least deranges the stomach, and has been uch used in France for epilepsy.

**inci Nitras, Zinc Nitrate.**

In deliquescent crystalline masses, is caustic like the loride, but produces less pain.

**inci Oleatum** and **Zinci Oleas,** *v.p.*355.

**Zinci Oxidum, Zinc Oxide** (*Off.*), *v.p.*315.

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.).

**Unguentum Zinci** (*Off.*).

Zinc Oxide, sifted, 3, Benzoated Lard, melted, 17.

**Unguentum Zinci cum Acido Salicylico, Vict. H., Mid. H.**

Salicylic Acid 40 grains, Zinc Ointment 1 ounce, Soft Paraffin 1 ounce.

**Cremor Zinci.**—Zinc Oxide 3, White Vaseline 17, Perfume *q.s.* Is much superior to violet powder for nursery use.

**Gelatinum Zinci, B.P.C.,** (Gelatum Zincum. Gelatin 3, Water 9, soak 12 hours, then heat to dissolve, and add Zinc Oxide 2, previously rubbed down with Glycerin $4\frac{3}{4}$. For use it is melted and applied with a brush to eczematous surfaces.—B.M.J. ii./87,449. Ichthyol and Resorcin may be added and the **Gelatin Basis** may be combined with other medicaments.

**Gelatina Zinci Dura, St. John's Hosp.**
White Gelatin 4, Zinc Oxide 3, Glycerin 5, Water 9. Use 1 part less of Zinc Oxide if to combine with ichthyo or precipitated sulphur.

**Lassar's Paste for Eczema.** Zinc Oxide 24, Starch 24, Salicylic Acid 2, Vaseline 50.

**Pilula Zinci cum Belladonna, T.H.**
Zinc Oxide 2 grains, Green Extract of Belladonna $\frac{1}{8}$ grain. *Dose.*—1 or 2 at bedtime.

**Pulvis Zinci et Amyli.** Zinc Oxide 1, Starch 2.

**Pulvis Zinci et Hydrargyri Subchloridi, (Westminster Hosp.).** Zinc Oxide, Calomel, Tannic Acid, and Starch, equal parts.

**Plaster Mulls** are spread containing **Zinc Oxide** 10 grammes; also combined with **Ichthyol** 5 grammes, in $\frac{1}{5}$ square metre, *v.p.*287.

**Salve Mulls** contain **Zinc Oxide** on one or both sides, 10 grammes, and **Zinc Oxide** 10, combined with **Ichthyol** 2 grammes; also **Zinc Oxide** 10 combined with **Red Mercuric Oxide** 5 grammes; in $\frac{1}{5}$ square metre, *v.p.*529.

**Zinci Permanganas,** *v.p.*325.
Notes of its use in 70 cases of urethritis; 10 cured, in 54 discharge greatly diminished; absence of irritation marked, 1 grain in 8 ounces of water used.—B.M.J. i./89,1458.

**Zinci Phosphidum,** *v.p.*381.

**Zinci Sulphas, Zinc Sulphate** (*Off.*).
*Dose.*—1 to 3 gr. (0·065 to 0·2 Gm.) tonic, 10 to 30 gr. (0·65 to 2 Gm.) emetic.

**Collyrium Adstringens Luteum. P. Austr.** Ammonium Chloride 5, Zinc Sulphate 12½, Distilled Water 2,000; dissolve and add Camphor 4, dissolved in Diluted Spirit (Sp. Gr. 0·895) 200. Then add Saffron 1. Digest 24 hours and filter.

**Lotio Rubra, U.C.H.** Zinc Sulphate 2 grains, Compound Tincture of Lavender 15 minims, Water to 1 ounce.

**Red Lotion Pastils** are prepared, coloured red, equivalent to 2 and 10 ounces respectively of the above lotion.

**Lotio Sulphatum.**

Zinc Sulphate 30 to 40 grains, Alum 30 to 40 grains, Ferrous Sulphate 20 grains, Copper Sulphate 2 grains, Water 8 ounces. For gleet.—B.M.J. i./89,1458.

**Ophthalmic Discs** contain $\frac{1}{250}$ grain **Zinc Sulphate,** and $\frac{1}{250}$ grain each **Zinc Sulphate and Opium,** respectively.

**Points of Zinc Sulphate** are moulded for intrauterine medication. **Points** of equal parts **Zinc Sulphate and Alum,** and of **Copper Sulphate** are also made.

**Antiseptin** is said to consist of Zinc Sulphate 85, Boric Acid 10, Zinc Iodide $2\frac{1}{2}$, Thymol $2\frac{1}{2}$. Used in 1 to 2 per cent. solution, 10 per cent. Ointment, and as a dusting powder with talc.—P.J. ii./00,587.

**Zinci Sulphis, Zinc Sulphite.**

A minutely crystalline white powder, soluble about 1 in 600 of water. Used as an antiseptic; produces no irritation, keeps organisms in check, and allows formation of healthy tissue.

**Gauze** impregnated with it has been used.—B.M.J. ii./90,1063; P.J. 1890,469; Pr. xlvi.461.

**Zinci Sulphocarbolas,** *v.p.*16.

**Zinci Sulpho-ichthyolas,** *v.p.*287.

**Zinci Valerianas, Zinc Valerianate, Zinc Isovalerianate (*Off.*).**

*Dose.*—1 to 3 grains (0·065 to 0·2 Gm.).

In pearly tabular crystals. Pills containing 3 grains in each are generally kept prepared.

**Pilula Trium Valerianatum,** *v.p.*420.

**Pilula Zinci Valerianatis. T.H.**

Zinc Valerianate 1 grain, Compound Pill of Asafetida 2 grains. *Dose*, 1 or 2.

Zinc Valerianate prevented recurrence of attacks of hay fever.—B.M.J. i./96,967.

# SECONDARY LIST OF DRUGS.

OF SOME WE HAVE HAD LITTLE OR NO EXPERIENCE, OTHERS ARE OLD REMEDIES RECENTLY RESUSCITATED.

**Abies canadensis.**—Hemlock Pitch Bark. A fluid extract is recommended for use as an astringent in leucorrhœa.—L. ii./86,888; and given internally as an astringent for diarrhœa, hæmoptysis, and night sweats.

**Achyranthes aspera.**—*Aghara*, or *Gas-karal-heba*, an Indian plant, possesses astringent and diuretic properties. Is used in dysentery, diarrhœa, menorrhagia, and dropsy, and applied locally to bites and stings of insects and reptiles. Ash contains a quantity of potash, and its Sanskrit name signifies *The Washerman.* Decoction, 1 in 20. *Dose*, 2 ounces. Liquid Extract, 1=1. *Dose*, 1 drachm.

**Acidum Carbonicum.**—Carbon Dioxide, Carbonic Anhydride. The gas inhaled for relief of leucocythæmia, trial recommended.—B.M.J. ii. 98,235. Carbonic Snow on cotton wool as a cold application.—B.M.J. ii. 98,433. For cardiac dyspnœa and pain of angina.—B.M.J. ii. 99,1178. Good results in whooping-cough administered per rectum.

**Acidum cetraricum.**—*Syn. Cetrarin. Dose*, 2 to 4 grains. A white micro-crystalline powder, obtained from Iceland moss (*Cetraria islandica*); taste bitter, soluble in alcohol, slightly so in water and ether. Recommended as a bitter tonic and laxative in constipation of chlorosis and anæmia.

**Aconitum ferox.**—Root, called *Bish* or *Bikh* in India, Nepaul Aconite by druggists. Contains Pseud-Aconitine (see p. 41), virulently poisonous. It comes from the Himalayas, probably mixed with the root of other species of aconite, and is in bolder roots than the aconite root imported from Germany. Therapeutically, its action resembles that of *A. napellus*, but is more diuretic and less antipyretic and diaphoretic. Internally, has relieved many cases of neuralgia and acute gout, and forms a valuable liniment for chilblains, &c.—B.M.J. ii 84,1276; L. i./85,236. Tincture, 1 in 8 of 90 per cent. alcohol. *Dose*, 1 minim hourly.

**Aconitum Fischeri.**—Produces Japanese Aconite Root, of which much has at times been imported. It is very pungent, and yields Jap-aconitine (P.J. 1894,813). This gives (by hydrolysis) Acetic Acid and Jap-benzaconine, and finally Benzoic Acid and Jap-aconine.—P.J. ii. 00,512. *A. japonicum*, with yellowish white flowers, has been identified as a variety of *A. Lycoctonum.* In the root of the European variety of the latter two alkaloids have been found, Lycaconitine and Myoctonine, both of which possess poisonous properties like Curare.—P.J. 1884,82,104; 1885,892. Botany of.—P.J. 1881,1021,1041; Th. Gaz. June 1889,379. Septentrionalin, from *A. Lycoctonum*, is a substitute for curare in vivisection.—B.M.J. ii.'05,657.

**Aconitum heterophyllum.**—Root, known as *Atis* or *Atees* in India, is neither poisonous nor antipyretic, but is tonic, and possibly aphrodisiac in action. It contains a large quantity of starch. *Dose*, in powder, 5 to 20 grains; of tincture, 1 in 8 of 90 per cent. alcohol, 10 to 60 minims.

**Adhatoda.**—The leaves of *A. Vasica*, I.C.Add, *v.p.*xxiv.

**Adonis vernalis.**—Contains a hygroscopic glucoside Adonidin, which resembles Digitalis in its action, but is said not to be cumulative. *Dose*, in powder, 3 to 6 grains; of infusion 1 in 40, 4 drachms; of Adonidin, ¼ to ½ grain daily. Is a cardiac tonic and diuretic.—B.M.J. i./36,709. Does not rival digitalis.—L. i./86,223. Use in dilated rather than hypertrophied heart.—Pr. xxxix. 128; Y.B. 1888,13. Successful use; disappearance of throbbing headache, perspiration, and dyspnœa; sedative, but little diuretic, raises arterial tension. L. ii./88,1012. Relieves præcordial pain in mitral and aortic regurgitation; urine increased and coloured yellow—L. i./89,596; ii./91,505; B.M.J. ii./92,1156. Use with bromides for epilepsy.—L. ii./94,1298; P.J. ii./95,391; B.M.J.E. i./96,44. Adonidin is rapid and certain in action.—Merck's Arch. 1900,125,163.

**Æsculus Hippocastanum.**—Horse-Chestnut. Tincture of Seeds 1 in 10 proof spirit for painful hæmorrhoids. *Dose*. -10 minims night and morning. Also emmenagogue.—P.J. ii./96,79.

**Æthol.**—Cetyl-Alcohol in crystals from Spermaceti. Is recommended for dermatological use, rubbed on the skin it becomes unctuous; is mixed with boric acid, under the name of *Borsyl*.—P.J. ii./99,344b; ii./00,586.

**Agar-Agar.**—Japanese Isinglass. Is in membrane-like strips, consisting of the dried jelly of *Gelidium corneum*, a seaweed. Another variety comes from Borneo. 1 in boiling water 200, forms on cooling, a transparent jelly, suitable for invalids, and as a cultivating nidus for germs; also for finishing calicoes, silks, &c.

**Aletris Farinosa, B.P.C.**—Star Grass. From the rhizome of this are prepared a Fluid Extract with diluted alcohol, U.S., *dose*, 5 to 15 minims, and a Cordial or Elixir, *dose* of ½ to 1 drachm, are used as uterine tonics.

**Allium.**—Garlic. U.S. The bulb of *Allium sativum*. *Dose* ½ to 2 drachms. Useful in cases of dilated bronchi with fetid expectoration; expectoration lessened and fetor disappeared.—Clinical Journal, Jan. 24, 31, 1894. Juice.—*Dose*, 10 to 30 minims. Extract = inspissated juice. *Dose*, 4 to 10 grains. Pill contains 4 grains extract. Syrupus Allii Aceticus, U.S. 1 in 5. *Dose*, 1 to 4 drachms. In pulmonary phthisis it diminishes cough and often expectoration ceases, lessens night-sweats, improves appetite, weight is gained and sleep becomes regular under its continued use.—B.M.J.E. i./00,104.

**Alstonia constricta, I.C.Add.**—Bark used in Australia as a febrifuge. *Dose*, in powder, 5 grains. A crystalline alkaloid, Alstonine or Chlorogenine, has been isolated from it. Tincture, 1 in 8 Alcohol 60 per cent. *Dose*, ½ to 1 drachm. Should be less, 5 to 20 minims. Influenza well treated by Tincture, 10 minim doses.—L. i./01,399; P.J. i./01,362.

**Alstonia scholaris, I.C.Add.**—Dita Bark, from India and the Philippine Islands. Contains a crystalline alkaloid, Ditaine, and the milky juice of the tree forms a substance resembling gutta percha. Tincture, 1 in 8 Alcohol 60 per cent. *Dose*, ½ to 1 drachm.—P.J. i./01,362.

**Andrographis, I.C.Add.** *v. pp.* xxiv, 480.

**Anacardium occidentale.**—Cashew Nut. The pericarp of this contains a vesicating oily liquid, which consists of 10 per cent. of Cardol to which the vesicating properties are due, and 90 per cent. of Anacardic Acid. The oil has been used in leprosy, ringworm, ulcers, corns, and internally as a vermifuge. Tincture, 1 in 10 S.V.R. *Dose*, 2 to 10 minims. The Marking Nut, from *A. Officinarum*, possesses similar properties.

**Anhalonium Lewinii.**—Mescal Buttons, the fruit of this, are eaten by the Mexican Indians to produce intoxication accompanied by visions. Experiments, with effects of one to three buttons.—B.M.J. ii '96,1625 ; i. '98,390 ; L. i. '97,1540 ; Y.B. 1898,457. Contemp. Rev., Jan. 1898,130. Effects due to alkaloids, Anhalonine and Mescaline. B.M.J.E. ii. '96,71. Pharmacology of Mescal plant.—P.J. ii. '98,457 ; B.M.J. ii. '98, 1060 ; P.J. ii. '99,357 ; Pr. lxi.71. Mescaline is the principal to which the peculiar visual hallucinations are due.—Pr. lxi.71. Effects of Mescal.—P.J. ii /99 357.

**Anhalonium Williamsii** contains an alkaloid Pellotine, which has been used as an hypnotic in dose of ¼ to ½ grain, internally and injected.—B.M.J.E. ii '97,67 ; P.J. i. '97,502. Pellotine Hydrochloride as a hypnotic.—P.J. i. '99,583.

**Anthemis nobilis.**—Chamomile Flowers (*Off.*). In addition to official Extract, Infusion, and Oil, a Tincture, 2 of single fresh flowers in Alcohol (90 per cent.) 3, and Water 1, is used for summer diarrhœa of children. *Dose*, 3 to 10 minims.

**Anthoxanthum odoratum.**—Sweet Vernal Grass. Flowers develop odour of coumarin on drying. Tincture, 1 of fresh-flowering herb in 10 of 40 O.P. spirit (making allowance for the moisture the plant contains). *Dose*, 2 to 6 minims, internally and diluted as a lotion for hay fever.

**Antiaris toxicaria.**—Upas tree of Java ; milky juice of tree contains a principle, Antiarin, recommended in the treatment of heart disease. Kiliani's research on the juice.—P.J. ii. '96,137 ; Y.B. 1898,10.

**Arbutin.**—A crystallized glucoside obtained from the leaves of *Arctostaphylos Uva-ursi* and other ericaceous plants. It is given for chronic cystitis and vesical catarrh, in dose of 5 to 15 grains with sugar ; is not poisonous. It is split up in the system, hydroquinone being produced.—M.R. 1[illegible],104 ; L. ii./80,184. Summary of results.—Th. Gaz. 1[illegible],270.

**Areca, Semen Arecæ,** P.G. iv. Betel Nut. B. P. Add. 1874.—From *Areca Catechu*. *Dose*, in powder, 1 to 4 drachms. Is astringent, and is used as a vermifuge, especially for dogs ; is also used as a masticatory and added to dentifrices. Contains several alkaloids, the most active of which is **Arecoline**, a liquid which forms a white crystalline **hydrobromide** P. G. iv. Its physiological action is allied to both that of pelletierine and that of muscarine or pilocarpine. Taken internally, causes vomiting and diarrhœa.—B.M.J.E. ii. '99,15. Is sialogogue and diaphoretic.—B.M.J.E. ii./95,99. Arecoline resembles physostigmine as a myotic. 1 per cent. solution suitable.—P.J. ii./96,39; M.C. Nov./97,151; Y.B. 1898,368; B.M.J. i./99,82. **Tenaline**, a liquid specialty, used in veterinary practice; is an efficient vermifuge. *Dose.*—1 minim for each pound of the weight of the dog.—B.M.J.E. i./98,35.

**Asclepias cornuti** (A. SYRIACA).—Is diaphoretic and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

**Asclepias incarnata.**—White Indian Hemp rhizome. Is a speedy, potent, and reliable diuretic.—Pr. xxiii.141. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

**Asclepias tuberosa.**—Pleurisy Root. Is expectorant and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

**Azadirachta Indica.** I.E. Add., *v.pp.*xxv., 483.

**Blatta orientalis.**—Cockroach. Is an old Russian remedy for dropsy. *Dose*, 2 to 8 grains, in powder.

**Blepharis Capensis.**—This South African plant is recommended as a remedy for anthrax. Tincture, 1 in 8 of 90 per cent. Alcohol. *Dose.*—16 minims (1 Cc.) every three hours; gradually lessened, as the drug is an active one.—P.J. i./98,140. Recommended in snake bites and insect bites, also for toothache.—P.J. ii./00,63.

**Boldoa fragrans** (*Peumus Boldus*).—The leaves, from Chili and Bolivia, resemble those of Sweet Gale (*Myrica Gale*), but are more aromatic. Used in dyspepsia, liver affections, rheumatism, and as a diuretic for atony of the bladder. Boldin, a glucoside, has hypnotic properties, and said also to have local anæsthetic properties like cocaine. Tincture of Boldo, 1 in 5 of 90 per cent. alcohol. *Dose*, 10 to 20 minims.—B.M.J. ii./85, 1134; i./88,918.

**Bonduc Seeds.**—From *Cæsalpinia Bonducella* are grey, and *C. Bonduc* are yellowish. Contain a bitter principle Bonducin, *dose*, 1½ to 3 grains. Bonduc Seeds used in India as a bitter tonic and antiperiodic. *Dose*, in powder, 10 to 15 grains. The powder, deprived of shell, mixed with an equal quantity of black pepper, forms Pulvis Bonducellæ Compositus. *Dose*, 15 to 30 grains.—L. ii./86,324.

**Cereus (Cactus) Grandiflorus** (*Night-blooming Cereus*). —Used in asthenic conditions of heart, and dropsy.—B.M.J. i./90,70. Liquid Extract (imported), 1=1. *Dose*, 1 to 10 minims. Tincture, fresh flowers and young stems 1, alcohol 4. *Dose*, 2 to 10, increased to 30, minims. A cardiac tonic, free from cumulative or narcotic action, most valuable in functional disorders, palpitation in dyspepsia and Graves' disease, and the milder forms of angina. Cardiac weakness following excessive alcohol or morphine taking, well adapted for its use.—Pr. xlvii. 141,223,266; L. ii./91,1274; B.M.J.E. ii./91,157; M.C. Nov. 1891,110; P.J. 1891,347. Possesses at most some slight diuretic action.—Pr. liii.161; P.J. 1894,253,416. Cactina Pillets, a specialty recommended as a cardiac tonic, are said to contain $\frac{1}{134}$ grain cactina, obtained from *Cactus Mexicana*. Botanical description, cardiac action doubtful.—P.J. ii./97,174,539,574.

**Carvacrol.** *Syn.* CYMENOL. A liquid constituent of the oils of various species of Origanum and Thymus. Possesses antiseptic properties. Its **Iodide,** a yellowish-white inodorous powder, has been used as a succedaneum for iodoform, and given internally for gout in dose of 2 to 8 grains in pills.

**Chekan.**—The leaves of *Myrtus Chekan.* Are aromatic and expectorant; are used in chronic coughs and bronchitis. *Dose*, of fluid extract, ½ to 3 drachms. Chemical research on.—Th. Gaz. 1888, 308.

**Chelidonium Majus.**—GREATER CELANDINE.—The yellow milky juice is an old remedy for warts and opacities of the cornea. Denisenko has re-introduced it as a remedy for cancer, and the freshly-expressed juice preserved by ½ per cent. by volume of chloroform has been much used, given internally in dose of 10 to 60 minims, and in some cases with striking results. A fluid extract (*Dose*, 10 to 30 minims) from the dried plant is prepared, and this, concentrated, is used for parenchymatous injection into diseased tissue, and, diluted, as a lotion. An alkaloid, Chelidonine, has been isolated, forming a Hydrochloride and a Sulphate in minute yellowish granular crystals; have been used as morphine substitutes in cancer. *Dose*, 3 grains twice a day.—B M.J.E. ii./96,88; ii./97,47; B.M J. i./97,25,354, 637; ii./97,123; L. ii./96,849,1778; ii./97,737; P.J. i./97,86; i./98,61. Ancient uses.—M.P.C. i./97,375; L. i./99,939.

**Cluytia hirsuta.**—Infusion of the leaves taken by the Kaffirs for anthrax and glanders; also applied locally as a paste mixed with water.

**Collinsonia Canadensis.**—The root of this, commonly known as stone-root or knob-root in America, has been employed in gravel and other urinary affections. Is an antispasmodic in flatulent, infantile, and biliary colic, and locally in lax conditions of the uvula, pharynx, and vocal cords. Tincture, 1 in 10 of proof spirit. *Dose*, ½ to 2 drachms. Liquid Extract, 1 in 1. *Dose*, 15 minims to 1 drachm. Suppositories containing 20 to 30 grains of the powder are also used. —B.M.J. ii./87,712. Cancer of stomach.—B.M.J. i./87,688. Cystitis.—L. i./88,868.

**Cornus Florida.**—Inner Bark of Dogwood Root. It is bitter, tonic, and stomachic. *Dose*, in powder, 20 to 60 grains. A fluid extract is made, 1=1 of bark.

**Coronilla varia.**—An aqueous extract of the leaves and flowering tops is used as a remedy in many cardiac affections. It possesses the great advantage over digitalis and strophanthus that it does not derange the digestive functions. *Dose of extract* is 1½ grains (0·1 Gm.) three or four times daily.—P.J. ii./98,661. The active principle Coronilline lessens frequency of the pulse, kills by cardiac paralysis.—B.M.J.E. ii./98 55.

**Corydalis cava or C. tuberosa.**—HOLLOW-ROOTED FUMITORY.—The root, known as *Radix Aristolochia*, possesses antiperiodic properties, and has been given as an emmenagogue and anthelmintic, as well as in syphilitic, scrofulous, and cutaneous affections, in dose of 10 to 30 grains. The bases Corydaline, Bulbocapnine, Corycavine, Corybulbine, Corytuberine, and Corydine have been obtained from the root. Berichte, 25,2411; P.J. i./97,465, *ex Proc. Chem. Soc.*, 170, 01; Archiv, 1898,236.

**Crotalus.**—A solution of the pure venom of the rattlesnake, *Crotalus horridus*, 1 in 1,000, 3 drops every three hours. Used in malignant scarlet fever.—L. ii./83,54; P.J. 1883,62.

**Drosera rotundifolia.**—The leaves of Sundew. Have been recommended for chronic bronchitis, asthma, whooping-cough, and to ease the cough of phthisis. Tincture, 1 in 10 of proof spirit. *Dose*, 5 to 10 minims.

**Erigeron canadense.**—Fleabane. The oil distilled from this herb is official in U.S. *Dose*, 5 to 30 minims. Capsules contain 5 minims, and a Liquid Extract of the leaves is prepared, *dose*, 30 to 60 minims. The plant has astringent and hæmostatic properties, especially in uterine, urinary and nephritic affections, dysuria, strangury also used in hæmoptysis.

**Eugenol.**—*Syn.* Eugenic Acid.—A colourless oily liquid, darkening on exposure, obtained as an oxidation product of oil of cloves. It has a strong clove odour, and is a powerful antiseptic and antiputrescent. Has been employed by dentists. Caused reduced sensibility of mucous membrane, but not complete anæsthesia. Useful with lanoline in eczema.—Th. Gaz. May 1889,344. Acetamide of eugenol; crystalline, non-caustic and antiseptic; recommended as a local anæsthetic.—L. ii./92,1350.

**Eupatorium perfoliatum,** U.S.—Boneset, Thoroughwort. The leaves and flowering tops contain a volatile oil and a glucoside, Eupatorin; is tonic and diaphoretic. Warm infusion is used like chamomile tea as an emetic. Given for ague, dyspepsia, and debility. In large doses is cathartic, and has been given to expel tænia. *Dose*, in powder, 10 to 60 grains; or 10 to 60 minims of fluid extract, U.S.

**Eugol.**—Under this name is sold an antiseptic liquid containing boric acid and glycerin with some alcohol, and possessing the odour of hamamelis and thymol. *Dose*, ½ to 1 drachm, (1·8 to 3·5 Cc.); also as a throat spray and mouth wash.—L. i./98,37.

**Galium Aparine.**—The plant Cleavers or Goose Grass. Is acid, astringent, and diuretic. Has been used in dropsy, jaundice, scrofulous scaly eruptions, epilepsy, and obesity; and, externally, a poultice of the fresh plant beaten into a pulp and the juice have been applied to promote healthy granulation in cancerous sores, and as a styptic for bleeding wounds. Succus Galii, *dose*, 1 to 2 drachms; and Extractum Galii, 5 to 20 grains.—B.M.J. i./83,1173; ii./83,14. For psoriasis.—B.M.J. i./86, 588.

**Geoffroya inermis** (*Andira inermis*).—Bark of Cabbage Tree, Worm-bark Tree of tropical America. Is bitter, astringent, febrifuge, and vermifuge in dose of 20 to 30 grains; larger doses are emetic, purgative, and narcotic.

**Geranium maculatum,** U.S.—Cranesbill root, is a powerful astringent; contains about 16 per cent. of tannin; used in diarrhœa, and locally in relaxed conditions of the mucous membranes. Geranin, a dried extract, is given in dose of 1 to 5 grains. Fluid Extract, U.S., *Dose*, 15 to 60 minims.

**Glaucium Luteum.** — Yellow-horned or Sea Poppy. 1 drachm of Liquid Extract in Glycosuria gave good results.

Hæmoglobin and red corpuscles increased considerably.—P.J. i./99,91; i./00,222.

**Gouania domingensis.**—Jamaica Chew-stick. Root contains Saponin; in powder is used as a dentifrice and to make mouth lotions; root stem also used as a tooth brush in U.S.A.; chewed after meals as a sialogogue assists digestion.

**Hæmol and Hæmogallol.**—These two products of the reduction of the colouring matter of the blood are used in Germany for chlorosis, and are said to be more easily converted into blood colouring matter than any ferruginous preparation. The former, a blackish powder, is obtained by the action of zinc, and the latter, a reddish brown powder, by means of pyrogallol. *Dose* of each, 2 to 8 grains in cachet, thrice daily.—P.J. 1892,813. Use in chlorosis not encouraging.—B.M.J. i./93,942. A combination of Hæmol with mercury and iodine (Iodo-Mercuro-Hæmol), is used in syphilis in repeated doses of 6 grains (0·4 Gm.) in pills, with addition of opium if needed.—L. i./05,1346. **Arsen-Hæmol.**—Hæmol, with 1 per cent. of arsenic; tonic and hæmatinic in anæmia. *Dose*, 1½ grains thrice daily in pills, gradually increased to 10 pills daily.—P.J. ii./00,775. **Bromo-Hæmol.** *Dose*, 30 grains twice or thrice daily in cachets. Combines tonic and sedative action.—P.J. ii./00,776.

**Halviva.**—KREAT-HALVIVA. *Dose*, 5 to 30 minims. A liquid sold as a nostrum, prepared from Kreat, or Kariyat, an Indian plant. This name is in India applied to two plants, *Ophelia Chirata* and *Andrographis paniculata.* Has been recommended as a tonic and substitute for quinine, in malaria and debility.—B.M.J. i./91,520,669,1004; P.J. 1891, 837,1120; C. and D. i./91,614; L. ii./00,327. Possesses antiseptic and antipyretic properties.

**Heliotropin.**—*Syn.* Piperonal, a Methylene derivative of Protocatechuic Aldehyde, when pure is in shining white flaky crystals with Coumarin odour, slightly soluble in water, freely in alcohol, much used in perfumery.

**Helonias dioica.**—False Unicorn Root. Is used in colic and in atony of the generative organs; also employed as an abortifacient.

**Henna.**—The dried leaves powdered of *Lawsonia inermis*, *L. spinosa*, and *L. alba.* Are used in Egypt for toilet purposes as a cosmetic dye.

**Hoang-Nan.**—The bark of *Strychnos gautheriana*, indigenous to Tonkin, has been recommended for hydrophobia, also for leprosy and other skin diseases. It contains strychnine and brucine.—P.J. 1877,988,364; 1889,425; L. i./89,701.

**Hydrocotyle asiatica.**—This umbelliferous herb is used in India for specific skin diseases, scaly eruptions, and ozæna, as an alterative and diuretic, in 4 to 10 grain doses internally; is added to lard as an ointment, also to poultices, and used as snuff in ozæna. Contains 15 per cent. of a volatile oil named Vellarine.—L. i./85,444.

**Hydroxylamine** is formed by the action of nascent hydrogen on nitric acid. It is only known in aqueous solution, odourless and colourless. Its strong reducing properties suggested its use in dermatology instead of chrysarobin. It is a powerful poison to low organic forms. Does not stain the skin. Large doses produce hæmaturia on account of destroying the red blood-corpuscles. The HYDROCHLORIDE is in large odourless and colourless hygroscopic crystals, with an acid taste and reaction, freely soluble in water. Solution 1 in 1,000 of equal parts of glycerin and alcohol, successful in lupus, ringvorm, and parasitic sycosis. Strongly irritant.—B.M.J. ii./88, 123; L. i./89,287; P.J. 1888,425; C.&D. ii./88,99; Th. Gaz. 1889,571,614,630; B.M.J. ii./89,1297; Y.B. 1890,304. Has a similar action to amyl nitrite in lowering blood- ressure.—Pr. xlvii.259. Useful in psoriasis and tinea ton- urans; better applied as ointment with lanoline.—B.M.J. 90,1207; Th. Gaz. 1890,744.

**Hymenodictyon excelsum.**—Inner bark is in Indian harmacopœia. Is astringent and bitter like cinchona, and is iven as a tonic and febrifuge. Contains the alkaloid Hymeno- ictyonine, and Æsculin.—P.J. 1883,311; 1884,195.

**Indurjao.** *Syn. Inderjao, Indrajab, Anderjow.* The seeds, nown as *Indurjao tulk* or bitter Indurjao, obtained from *Iolarrhena antidysenterica* and *H. pubescens*, are used in ndia, as also is the bark, as astringents in diarrhœa and ysentery, also as febrifuges and anthelmintics. Tincture, to 8. *Dose*, ½ to 2 drachms.

**Inula Helenium.**—Elecampane. Root contains Inulin lied to Starch, and Helenin, a stearoptene, in white acicular ystals with faint odour and aromatic taste, insoluble in water, it freely so in alcohol. Is antiseptic, used in ozæna, keeps f insects, and internally for phthisis, malarial fevers, fantile and catarrhal diarrhœa; checks bronchial secretion.

**Jacaranda lancifoliata.**—A Columbian plant. The fluid tract of this, known as Salud, has been recommended for philis, gonorrhœa, and gleet. *J. procera*, *J. tomentosa*, and her species are known by the name of Caroba in Brazil, and said to have similar properties.—P.J. 1875,905; B.M.J. 85,327.

**Jatropha Curcas** (*Curcas purgans*).—Physic Nut, in armacopœia of India. Yields about 30 per cent. of a fixed rgative oil, which has an almond-like taste; 12 to 15 drops e the same effect as an ounce of castor oil; externally, it is timulant, and in the East is applied locally to increase the retion of milk. Capsules, 10 minims in each.

**ava-Kava, I. C. Add.**—Root of *Piper methysticum*, from the ynesian Islands. Is used by natives as a sialogogue and to ke a fermented drink. Contains an essential oil, two resins, about 1 per cent. of a neutral crystalline principle, Kavalin Methysticin, allied to Piperin. Is a bitter tonic, with eeable taste, stimulates the nervous system, and is diuretic. been found useful for gonorrhœa and gout. Extract, ro-alcoholic. *Dose*, 5 to 10 grains. Liquid Extract, 1 in of alcohols 90 and 45 per cent. *Dose*, 30 to 60 minims. = 3 grains extract. *Dose*, 1 to 3 or 4. Infusion, 1 in 320. *e*, ½ pint.—B.M.J. i./86,221; P.J. 1886,918,1006,149,508. ough more palatable than, is not equal to copaiba or santal —L. ii./87,604. Is a local anæsthetic to tongue and eye. B.M.J. i./87,635. Useful in gonorrhœa and cystitis.—I.J.E. i./91,183.

**oromiko.**—These herbs, *Veronica salicifolia* and *V. parri-*, imported from New Zealand, are used there and in China as a remedy for chronic dysentery and diarrhœa. Tincture, 1 in 5 of proof spirit. *Dose,* ½ to 1 drachm.

**Lachnanthes tinctoria.**—Spirit Weed, Red Root. A tincture = 1 in 10 of proof spirit of this United States plant; is used to check the cough in phthisis. *Dose,* 1 to 10 minims. B.M.J. ii./96,1470.

**Lycoperdon giganteum.**—Puff Ball. This forms a soft and comfortable surgical dressing. The dusty powder is a powerful hæmostatic.—Whitla.

**Maidis Stigmata.** — *Syn.* Corn Silk. The thread-like stigmata of nearly ripe Maize fruit. Are demulcent and diuretic. Used in acute and chronic affections of the kidney and bladder, *e.g.*, catarrh of, cystitis, nocturnal incontinence of urine, and cardiac dropsy. Useful in renal catarrh and colic.—M.R. 1885,103. Fluid extract, *dose,* 1 drachm; o extract, 20 grains.—L. ii./85,799; ii./87,605.

**Maidis Ustilago.**—Maize Ergot, Corn Ergot. Is used in parturition in place of ergot. Is said to increase the force with out increasing the duration of uterine contractions. *Dose,* 1 to 60 grains, Fluid Extract, ½ to 2 drachm —Pr. xl.215; Th Gaz. Dec. 1887,844; B.J.M.E. ii./93,7.

**Manaca.**—Root of *Franciscea uniflora,* from Brazil and equatorial America. Is purgative and diuretic; much recom mended for syphilis and rheumatism.

**Mandragorine.**—A crystallized alkaloid, obtained from Mandrake root, *Mandragora officinalis.* A solution of the sulphate is a mydriatic. The plant itself was, by the ancients considered a narcotic.—P.J. 1885,1067; 1888,268; 1890,810 L. ii./85,87; B.M.J. i. 90,620. Said to contain principally Hyoscyamine, with some Hyoscine (?).—Berichte 31,2031 C. & D. i./01,14.

**Menyanthes trifoliata.**—Bogbean Leaves. Are bitter tonic, emmenagogue, antiscorbutic, vermifuge and febrifuge large doses are purgative and emetic; contain Menyanthin, a glucoside. Infusion 1 in 20. *Dose,* 2 to 6 ounces, taken hot early in the morning daily useful for functional amenorrhœa.—L. i./85,132,235. Liquid Extract with Liquorice, 1 in 2. *Dose* ½ ounce in a cup of hot water daily as the infusion.

**Monsonia ovata or biflora.**—A South African plan used as a native remedy for dysentery. Tincture, 1 in 8 Alcohol (90 per cent.). *Dose,* 1 to 4 drachms every 3 or hours.—L. i./97,368,433; Y.B. 1898,99,126,455; P.J. i./97,162 450; M.C. April,97,63. *Monsonia Burkei* (or *biflora*) preferred and *Pelargonium tuberosa* also recommended for dysentery.—L. ii./98,127; ii./99,1826. Useful in anthrax.—P.J. i./01,106.

**Muscarine Nitrate.** — A syrupy liquid, the salt of a uncrystallized alkaloid, obtained from *Agaricus* or *Amanit Muscaria,* also from brain substance. Is antagonistic to atropine excepting that, applied topically, it dilates the pupil. I produces paralysis, arresting the heart in diastole. Used only for physiological experiments.—Pr. xxxix.212.

**Myrtol.** — A constituent of myrtle oil; has been re commended in putrid affections of lungs and air passages. Ex pectoration lessened, but no effect on bacilli. *Dose,* 5 to 1 minims in capsules, or on sugar.—B.M.J. i./89,336; P.J. 1889, 782; Y.B. 1890,307; Arch. 1900,436.

**Naftalan**—A German speciality. An ointment prepared by dissolving 2½ to 4 per cent. of anhydrous soap in purified petroleum naphtha. Used as an application for arthritis, rheumatism and eczema. Melts at 70°C.—C. & D. 1898,250; Therap. 1899,68,181. Useful in bedsores.—P.J. ii./00,206.

**Neem or Nim, I. C. Add.**—The Margosa or Bead Tree, *Melia Azadirachta*. The oil of seed is given in leprosy and is applied for rheumatism, and the bark is used in India as a tonic and antiperiodic = Quassia. Infusion 1 in 10 cold water, *dose*, ½ to 1 ounce. Tincture 1 in 10 alcohol 45 %, *dose*, ½ to 1 drachm.

**Oliveri Cortex, I. C. Add.** and Tincture. Black Sassafras.—P.J. ii./99,326,434, *v.p.*xxviii.

**Pelargonium flabellifolium.** Root from Natal possesses great astringency, *dose*, 5 to 20 grains, found useful in dysentery. Tablets Compound, Pelargonii 5 gr., Opii ¼ gr., Ipecac. ¼ gr., Bismuth. Salicylat. 2½ gr., *dose*, 1 or 2.—P.J. i./01,540.

**Pharbitis Nil, I. C. Add.**—Seeds.—*Syn.* Kaladana in Pharmacopœia of India. Yield Kaladanæ Resina, Pharbitisin, a resin allied to Resin of Jalap, given in dose of 2 to 8 grains as a purgative. Tincture 1 in 5 alcohol 70 per cent. *Dose*, ½ to 1 drachm; and Compound Powder, Kaladana 5, Acid Potassium Tartrate 9, Ginger 1. *Dose*, 20 to 60 grains.

**Phloridzin.**—*Syn.* Phlorizin, a glucoside from the bark of stem and root of the apple, pear, plum, and cherry, is in minute pinkish-white crystals, sparingly soluble in water, readily so in alcohol and ether, and possesses the peculiar property of inducing artificial diabetes (glycosuria) in animals to which it is administered.—C. & D. ii./89,85; L. ii./89,902. A valuable mild tonic, specially suitable for children; a substitute for quinine when latter is not tolerated.—Dub. Quar. Jour. Med. Sci. Aug. 1862,39. *Dose*, Tonic, 5 grains, antiperiodic, 15 grains.

**Pichi.**—Leaves and twigs of *Fabiana imbricata*; useful in gravel and some kidney diseases. Liquid Extract. *Dose*, 10 to 60 minims. Good effects in gonorrhœa and cystitis.—Am. M.S.B. 1893,1213; B.M.J.E. ii./93,32.

**Quassin.** Obtained from quassia, in rectangular lamellar crystals, soluble about 1 in 100 of water, soluble also in acid and caustic alkaline solutions. Increases secretion of salivary glands and kidneys, and stimulates digestion, *dose*, $\frac{1}{30}$ to ⅓ grai

**Quillaia saponaria** (*Off.*). *Syn.* Panama Bark (Soap bark). Contains quillaic acid and sapotoxin, closely allied to saponin. Has a sweetish but acrid after-taste, and possesses emulsifying properties, causing frothing in water in which it has been macerated. Soap-bark has been used as an expectorant in bronchitis, contra-indicated in inflammation of the intestines or stomach, or ulcerated condition of the mucous membrane. Is used for emulsifying tar preparations, *v.p* 159. Tincture (*Off.*), 1 in 20 of alcohol (60 per cent.). *Dose*, 30 to 60 minims.—P.J. 1886,460; L. ii./87,1287. Bark dust useful, sniffed often for catarrhal rhinitis.—L. ii./88,437.

**Randia dumetorum.**—An Indian shrub. Fruit possesses emetic, calmative, and antispasmodic properties; has been used as a substitute for ipecacuanha. Tincture, 1 in 5 of Spirit of Ether. *Dose*, 15 to 60 minims.—L. i. 91,656; Pr. xlvii.141; P. J. 1895,646.

**Rubus Chamæmorus.**—Cloudberry, Norwegian blackberry, marsh raspberry, or dwarf mulberry. The leaves of this are diuretic, useful in nephritis, cirrhosis of liver, cardiac affections, cancer of stomach, chloro-anæmia with œdema, hysterical epilepsy and palpitation of the heart. Infusion, 1 in 12, *dose*, ½ ounce; fluid extract, *dose*, ½ to 1 drachm. Fruit is antiscorbutic and used for hæmoptysis.—Th. Gaz. [illegible],51.

**Salix nigra.**—The bark of this, the black or pussy willow, is used in North America as a sexual sedative in gonorrhœa and spermatorrhœa. Contains *Salinigrin*—a glucoside.—C. & D. i./00,617; Jour. Chem. Soc. 77,707. Liquid extract, 1 in 1. *Dose*, ½ to 1 drachm. Relieves ovarian pain and nocturnal emissions.—B.M.J. ii./87,237; L. i./88,869.

**Sapo Viridis.**—*Syn.* Sapo Kalinus (P.G.). The potash or soft soap in German commerce, is generally made with linseed oil, has a pale brownish-green colour, and is a useful detergent in some skin diseases.

**Sarracenia purpurea.**—Pitcher Plant. This herb is considered tonic and diuretic; at one time used as a specific for small-pox.

**Sassafras Radix** (*Off.*). The oil (*Oleum Sassafras, U.S.*), consisting principally of Safrole, benzene derivative, is a useful pediculicide, it dislodges their nits; it should be applied with a stiff brush but not touch the skin, yet, if so, a little bland oil allays the irritation it causes. Black Sassafras, *r.p.*xxviii. **Safrole**, now obtained from camphor oil, is used for scenting soaps and as an anodyne in subacute rheumatism. *Dose*, 20 to 30 minims.

**Sassafras Pith** yields a mucilage useful as a demulcent drink, and locally for inflammation of the eyes; it is not precipitated by alcohol.

**Scillipicrin.**—A principle obtained from the bulb of *Urginea Scilla*; is an amorphous yellowish-white powder, very hygroscopic,—suitable for hypodermic injection; acts powerfully on the heart, retarding its action and in toxic doses—[illegible] to $\frac{1}{30}$ grain in the frog—arrests the heart in diastole.—B.M.J. ii. [illegible], 198; P.J. [illegible],1038. *Dose.*—?

**Scillitoxin.**—*Syn.* SCILLAIN. A principle from the bulb of *Urginea Scilla*, is an amorphous cinnamon-brown powder, insoluble in water and ether; soluble in alcohol, has a bitter, burning taste, also soluble in aqueous alkaline solutions. The powder is very irritating to the nostrils. It arrests the action of the frog's heart in systole, and is about 8 times as strong a poison as scillipicrin.—B.M.J. ii. [illegible],198; P.J. [illegible],1038.

**Scopola Carniolica** (*Scopolia atropoides*).—The root of this, an Austrian plant, has been imported as a substitute for belladonna. It contains the alkaloid hyoscyamine in comparatively large quantities, and almost free from admixture with other mydriatic alkaloids. Given internally, it is said to cause less dryness of the throat than belladonna, and is probably more nearly allied to hyoscyamus in its action. Liniment, Ointment, and Plaster, corresponding to those of

Belladonna are prepared, also Extract, *dose*, $\frac{1}{8}$ to $\frac{1}{2}$ grain; Liquid Extract, *dose*, 1 to 5 minims, and Tincture, *dose*, 5 to 30 minims. — P.J. 1889,461,464,466,468,471,500; L. ii./89, 1297; B.M.J. i./90,92. **Scopolamine**, mydriatic alkaloid, has been obtained from this root, *v.pp.*88,281,282. Its **hydrobromide**, in transparent rhombic crystals, easily soluble in water, has been employed for ophthalmic purposes, and this name in P.G. iv. is applied to the salt of the base in B.P. called hyoscine. It may be used in solution one-fifth the strength of atropine solution, and does not cause dryness of throat.—P.J. 1894 (Dec.),545; C. and D. i./95,291. Scopolamine hydrobromide preferred to atropine in ophthalmic practice.—L. ii./93,1503. *Dose*, $\frac{1}{200}$ to $\frac{1}{100}$ grain.

**Scopola japonica**, P. Jap.—The root of this, known in commerce as Japanese Belladonna, yields an alkaloid, Scopoline, which is a mydriatic, and produces as much dilatation as atropine in half the time, and effects last longer.—L. ii./84,558; B.M.J. i./86,1113. This Scopoline proved to be a mixture of atropine, hyoscine (?) and hyoscyamine.—P.J. 1889,461.

**Scutellarin.**—The dried extract of *Scutellaria lateriflora*—mad dog skull-cap. Is of a greenish-brown colour, and is given as a nervous stimulant. Suggested use in cases of epilepsy, chorea, and insomnia; relieved severe hiccough.—B.M.J. ii./85,1158. *Dose*, 1 to 5 grains in a pill.

**Senecio.** Ragwort. The herbs *Senecio Jacobæa* and *S. aureus* are of ancient use as emmenagogues, and have been successfully employed in amenorrhœa and dysmenorrhœa, especially when depending on chill. Liquid Extract, 1 = 1 of herb. *Dose*, 20 to 60 minims. Tincture, 1 in 10 of proof spirit. *Dose*, 1 to 2 drachms Senecin, an extractive principle. *Dose*, 2 to 5 grains in pill.—B.M.J. i./94,679; Pr. liii.52; M.P.C. i./94,431. Does not cause abortion.—M.C. Sept. 97, 412. Two alkaloids—Senecionine and Senecine—are contained in the underground parts of many species of *Senecio*.—P.J. i./95,1195; ii./95,535. *S. aureus* as a hæmostatic. — P.J. i./98,471.

**Sethia acuminata.**—Is a vermifuge, especially for round worm; useful for children, as its taste is not disagreeable. Fluid extract, 2 = 1 of leaves. *Dose*, 20 to 40 minims.—P.J. 1882,818. Has also narcotic properties.

**Siegesbeckia orientalis**—This herb is said to be useful, combined with potassium iodide, in syphilis and gout. The juice is healing applied to gangrenous sores. Recommended as a topical application for tinea and thrush.—B.M.J. i./87, 1304; ii./87,508; P.J. 1886, 1047.

**Simulo.** Fruit of *Capparis coriacea*, from Peru. Its powder, 45 grammes in 500 grammes of sweet wine, of which a wineglassful was taken every night and morning, cured a case (Dr. Larrea, who narrates it) of epilepsy after he had 14 fits, preceded by a distinct aura. He has used it much in nervous diseases, hysteria, and epilepsy. L. i./85,722; B.M.J. i./85,1184; P.J. 1885,890. Cases of epilepsy improved by its use. -L. i./88,617. For chorea.—Th. Gaz. 1890,692.

**Soya Hispida.**—*Syn.* Dolichos Soja.—The seeds of the soy bean are recommended as food made into a kind of bread for diabetic patients. They contain only 6·4 per cent. of starch, 36·7 per cent. of proteid matter, and 17 per cent. of fat. Slightly purgative at first, but toleration soon established.—P.J. 1889,118; Th. Gaz. Jan. 1889,44; Pr. 1.321.

**Symphytum officinale.**—The Comfrey plant and root boiled as a poultice for sarcomatous or cancerous tumours; one such cured.—L. i./99,810. For hæmoptysis and kidney disease with blood in the urine, as a decoction or syrup.—L. i./99,939. General uses, from an old herbal.—L. i./99,1068. Root pulped was used to stiffen bandages for fractures.

**Tayuya.**—"Leroy vegetal." Root of *Trianosperma ficifolia*, a Brazilian plant allied to *Bryonia alba*. Is a drastic purgative and emetic, excitant to the lymphatic system, and an active depurative. Tincture, 1 in 4 proof spirit. *Dose*, 6 to 15 minims, increased. Is used for tertiary syphilis and dropsy. Active principle, Tayuyina (Trianospermina of Peckolt), is a drastic purgative.—P.J. 1880,667; is ascribed to *Dermophylla pendatica*.—L. ii./81,891.

**Touga.**—A specialty for neuralgia. Dose, 1 to 2 drachms. A liquid prepared from *Epipremnum mirabile* and *Premna Taitensis*.—P.J. 1880,770,849,889; L. i./80,361,445,835; i./81,84; B.M.J. ii./81,171. **Succus Ari**, prepared from *Arum maculatum*. *Dose*.—1 drachm. Relieved a case of neuralgia in which Touga was useful but expensive medicine.—B.M.J. i./81,908.

**Ulexine.**—An alkaloid in yellowish white crystals, soluble in water, obtained from *Ulex europæus*, or common furze. Is a powerful diuretic. It forms a hydrobromide freely soluble in water. *Dose* of each, $\frac{1}{20}$ to $\frac{1}{5}$ grain. Requires caution.—P.J. 1886,229. Benumbs the tongue, produces clonic spasm and palsy in frogs.—Prov. M.J. 1886,422. Physiological properties as an antidote to strychnine.—Th. Gaz. Oct. 1887,690; L. ii./86,645; L. i./88,241; P.J. 1889,1029.

**Urea.**—*Syn.* Carbamide. In colourless dimetric crystals, soluble 1 in 1 water and in alcohol. Given as a diuretic in gouty affections and chronic kidney diseases, and has a distinct antiperiodic effect in cases of ague.—*Dose*, 5 to 20 grains. Urea-Quinine, *v.p.*414. Recommended for tuberculosis and gout.—L. i./01,694.

**Ursal.**—A combination of urea with salicylic acid in white acicular crystals partially soluble in water, readily so in alcohol. Used as a remedy in gout and rheumatism.—P.J. ii. 98,603. *Dose*, 10 to 30 grains.

**Urechites suberecta.**—An apocynaceous plant from the West Indies, yields a milky juice used as an Obeah poison. Active principles, Urechitin and Urechitoxin. Is diaphoretic, diuretic, and purgative; a cardiac tonic, but dangerous on account of cumulative action.—B.M.J. i. 92,1295; M.C. Feb. 93,331; P.J. 1892,344.

**Vanadium.**—Vanadic Acid and Sodium Meta-Vanadate. Of these the last has been used in chlorosis, phthisis, and rheumatism as tonics and stomachic antiseptics.—P.J. i. 98, 603. Sodium Meta-Vanadate. *Dose*, $\frac{1}{32}$ grain (0·002 Gm.) or $\frac{1}{4}$ the quantity injected hypodermically. Is soluble in water, but decomposes in the presence of organic matter. Preparation of, and other directions *re* pharmacology of Vanadates.—P.J. ii./99,1493; i./00,46; B.M.J.E. ii. 99,91.

**Vanillin.**—*Syn.* VANILLIC ACID. Occurs in white acicular crystals, having a strong odour if obtained from vanilla; but is also obtained as a derivative of coniferine, a glucoside obtained from coniferous woods. Soluble in alcohol, ether, and oils, sparingly so in water. Vanillin 1, phloroglucin 2, in absolute alcohol 100, forms Günsberg's test for mineral acids, with which one drop gives a fine red colour, red crystals being precipitated; organic acids do not affect the test.—B.M.J. i./88,807; Th. Gaz. 1888,171. On lower animals is a convulsive agent causing epileptiform movements, but on man, 10 or 15 grammes given without noxious results. Use suggested in atonic dyspepsia as an excito-motor stimulant.—P.J. 1886,83.

**Viburnum prunifolium, I.C.Add., U.S.**—Bark of Black Haw. Astringent and bitter nervine tonic; has good repute for preventing abortion, and is used for dysmenorrhœa. Extract, *dose*, 2 to 10 grains. Fluid Extract, I.C.Add., U.S., 1=1 of bark. *Dose*, 60 to 120 minims.—L. ii./85,36; Pr. xxxiv.50. Abortion threatened, pain and bleeding were checked, fifteen cases.—L. ii./86,888; see also B.M.J. i./86,391,489; ii./87,1153; Pr. xl.54; L. ii./88,133. A combination with extract of malt is sold as Malto-Viburnin. *Dose*, 1 to 4 drachms. Prolonged hæmorrhage threatening abortion cured by frequent drachm doses of liquid extract.—B.M.J. ii. '90,86. Most efficacious in threatened abortion and a sedative in neurotic and hysterical conditions.—L. ii./95,1625. Celerina, a specialty said to contain viburnum in combination with celery, coca, and kola, is recommended as a nervine tonic.

**Viburnum Opulus.**—Cramp Bark. The bark of this is also used in the States as an anti-spasmodic, and for relaxing cramp of all kinds; in hysteria, during pregnancy.

**Vinca major.**—Great Periwinkle Herb. Is astringent, and has been used for menorrhagia. Infusion, 1 in 10. *Dose*, a wineglassful frequently. Liquid extract, 1 to 2 drachms.

**Viola tricolor**, U.S.—Flowering plant of Wild Pansy. Is supposed to contain a little Violin, found in *Viola odorata*, and resembling Emetin in action. Is used externally as an ointment, and a poultice. *Dose*, 10 to 60 grains in infusion.

**Viscum album.**—Mistletoe. The berries are said to be emetic and purgative. The plant contains Viscin, a kind of birdlime. Has been used for epilepsy and hysteria. *Dose*, in powder, 10 to 60 grains. Is said to be an ingredient in Elepizone, *v.p.* 431. Recommended for chorea.—Westcott.

**Yerba Santa** (*Eriodictyon glutinosum* or *E. californicum*).—Leaves are aromatic and sweetish, often agglutinated together; they are stimulant to mucous membranes of the bronchial tubes. Used for bronchitis, phthisis, and other catarrhal affections. Fluid extract, 10 to 40 minims. Is sold combined with extract of malt, as Malto-Yerbine. *Dose*, 1 to 4 drachms. Composition and preparations.—P.J. 1890,540; L. i./98 1114.

**Yohimbine Hydrochloride.**—The salt of an alkaloid obtained from Yohimbehe or Yumbehoa bark, is a reputed aphrodisiac. One per cent. solution, *dose*, 5 to 15 minims. Tablets contain $\frac{1}{12}$ grain.

# ANTITOXINS, VACCINES AND ANTITOXIC SERUMS.

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THE discovery of the medicinal powers of the serum of animals which have been rendered immune to certain diseases has opened up a new source of therapeutic agents. Among the earliest experiments were those of Pasteur, who introduced an anti-rabic liquid as a cure for hydrophobia; Koch, who tried the effects of a weakened virus for the treatment of phthisis; Hericourt and Richet, who tried serum inoculations and antitoxins for tuberculous diseases; and Brown-Séquard who proposed Orchitic Extract (Spermin) for nervous ailments and senile decay. Behring and Kitasato extended the system to the treatment of diphtheria, and Cattani and Tizzoni to tetanus.

In all these cases of hypodermic injection a special syringe must be used, which admits of thorough sterilization each time before use.

A lecture read at the Pathological Society upon the general principles of antitoxin treatment.—L. i./95,604.

Report of the Annual Meeting of the British Medical Association containing discussion upon Serum therapeutics.—B.M.J. ii./95,406; L. ii./95,289,855,874.

Editorial article upon Serotherapy.—B.M.J. ii./95,665.

Serum preparation by Behring at Marburg.—P.J. ii./97,357. A notice of Serotherapy.—B.M.J. ii./97,726.

On the urgent need for the recognition of a universal standard of strength for antitoxins, and especially for those of diphtheria and tetanus.—L. i./97,394.

In Italy a bill has been introduced to regulate the forms and qualities of lymphs and serums.—B.M.J. i./98,1556.

Editorial on disease as treated by toxins and venins.—B.M.J. i./99,1111.

Antitoxins: their preparation, properties and administration.—P.J. i./99,168.

Lecture by Haffkine on Preventive Inoculations.—L. i./99,1694.

Discussion upon Serumtherapy. — B.M.J. ii./00, 353,1078.

Uses and preparation of Antitoxin Sera.—Therap. 1901,1 *et seq.*

## CLASSIFICATION.

Professor Sims Woodhead has kindly supplied the ollowing analysis and classification of antitoxins, serums and vaccines :—

*A.* **Vaccines.**

1. **Cultivations.**
   - *a.* Containing pathogenetic micro-organisms, with toxins: such as Anthrax, one form of Cancer Vaccine, Cholera Vaccine, Coley's Fluid, Haffkine's Plague Vaccine, Oxy-tuberculin, Tuberculin and T.R. of Koch, Tuberculocidin, Typhoid Vaccine of Wright.
   - *b.* Containing toxins only; such as one form of Cancer remedy, Diphtheria Toxin, Mallein, Tetanus Toxin, and Tuberculin Koch (?)

2.
   - *a.* Tissues of animals suffering from an infective disease; such as Malignant Œdema, and Rabies.
   - *b.* Fluids of animals suffering from an infective disease; such as the Syphilization of Boeck and Turenne, Vaccine Lymph, and Glycerinated Calf Lymph.

.[*] **"Anti" Serums** Anti-Diphtheritic and Anti-Tetanic Serums.

1. Antitoxic, such as Anti-Pneumococcic, Anti-Venene against serpents' venom, and Diphtheritic and Tetanus Antitoxins. These neutralise the toxins
2. Anti-bacterial; these act directly upon bacteria, such are Cancer Anti-bacterial Serum, Cholera Anti-bacterial Serum, Anti-Leprosy Serum, Maragliano's Anti-Tubercular Serum, Anti-Rabic Serum, Anti-Streptococcic Serum, Anti-Typhoid Serum, and Yersin's Plague Serum.

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[*] When an "Anti" body is formed in connection with any ins and bacteria, these substances may always be used as nunising bodies.

*C.* Animal tissue extracts = Organo-therapy.

Notwithstanding our acceptance of this classificatio we find it to be more convenient for purposes reference to arrange these modes of treatment accordi to the diseases in alphabetical order.

## *NOTE OF CAUTION.*

The constitution, mode of preparation, and standar of strength of these serums, lymphs, and antitoxins i animal origin are still very indefinite, except in the ca of Anti-Diphtheritic and Anti-Tetanic preparation The preparations obtainable at the present time a rarely those which are referred to by physician even as to cases of last year. The modes of manu facture are still in process of development, an the results cannot be estimated by chemical analys any more than by physical processes; they ca only be ascertained and compared by experiments o animals or on man. Under these circumstances, th authors disclaim any intention of recommending th employment of these serums, &c., and state that phy sicians making use of them must at present be guide by the makers' guarantee as to strength, purity an method of administration.

### Alcoholism, Anti-Alcoholic Serum. Ant Ethyline.

M. Broca, in Paris, introduced a cure for inebriety b the injection of a serum obtained from horses to whic alcohol had been given: the method received wit smiling incredulity.—L. i. 00.14; P.J. ii. 00.587.

### Anthrax.

Attempts have been made in France, Italy, Germany and also in Japan, to prepare an antitoxin for the cur of this fatal form of animal poisoning; experimen made at the Pasteur Institute are noted.—B.M.J.E. i./96 23.

Further experiments are described in the Berli Klin. Woch of October, 1897, and are referred t B.M.J.E. ii./97.96; L. ii./97.1223.

For a general résumé of the researches, see G. M Sternberg on Immunity and Serumtherapy.

The anti-anthrax serum of Professor Sclavo (Italy) as cured 27 cases.—L. i./99,981.

Successful use of anti-charbon serum in Italy.—M.J.E. ii./98,20.

**Cancer, Coley's Fluid** ; See Sarcoma, *v.p.*499.

**Cholera Virus.**

The method of treating cholera by the injection of tenuated choleraic poison has been tried in Spain, Ger-any, and in India, with various results.

Note on the method of Haffkine.—B.M.J. ii./93,987.

Self-inoculations with cholera poison to test the effi-cy of an attenuated virus, no evil results.—B.M.J.E. /93,72.

Haffkine has made 16,000 protective inoculations in dia.—L. i./94,167. Now 25,000. L. i./94,1513.

Haffkine's summary of the results of anti-choleraic oculations for cholera in India during 1893-4.—M.J. i./95,219.

Summary of later results.—L. ii./95,999.

Haffkine's lecture on the treatment of cholera by titoxin methods.—L. ii./95,1555; B.M.J. ii./95,735, 41. Another discourse.—L. i./99,1694.

Experiments made in Paris with a cholera antitoxin. -B.M.J. i./96,1468,1518.

Anti-cholera serum used in Japan.—B.M.J. ii./96, 21 ; B.M.J. ii./97,337.

Statistics of the results of inoculations.—L. ii./96,171.

Editorial notes on cholera antitoxin treatment.—L. /96,395,631,1246,1266.

Lord Lister's address on preventive inoculation.—M.J. ii./95,1609.

**phtheria Serum and Antitoxin** ; **Serum Antidiphthericum, P.G.iv.**

This remedy for diphtheria consists of the serum of ses, previously rendered incapable of taking the ease, or of a principle—antitoxin—separated from it. ese horses are immunised by the injection of the in of diphtheria, which is produced by the culture of bacilli of diphtheria in broth, the liquid becoming ficiently active in a month, and sometimes in a k. The horses, which must be free from glanders tuberculosis, are then injected with the clear liquid, obtained by filtration through porcelain, of the broth culture. Repeated injections render the serum of a high antitoxic quality; the horse does not show any sign of illness during this process. The efficacy of the remedy is tested by injecting guinea-pigs with a dose of the serum *pari passu* with an injection of diphtheritic poison. When the horse's serum is found to have reached the stage at which this combined injection leads to no symptoms of diphtheria, it is considered to have attained the required potency. The horse is then bled, and the serum prepared for use as a remedy, and as a prophylactic.

The horse from which this perfected serum is obtained is then found to be itself safe from infection with diphtheritic bacilli; and if this perfected serum be added to a fluid containing diphtheritic toxins they become harmless.

This serum combats the disease in the human subject, and experience has shown that it can be safely injected into healthy children without causing any ill effects beyond an occasional appearance of urticaria.

It was found by experiment that guinea-pigs were rendered safe from diphtheritic infection by injections of the blood of patients who had recovered from diphtheria; and that dogs fed upon mutton from sheep which had been rendered immune, became themselves almost insusceptible to inoculation with diphtheria.

Very great care must be exercised in comparing the value and the strength of the various preparations which have been employed; because the products obtained by different authorities vary largely in strength, and the strength of the serum produced by each one seems to have varied from time to time.

Aronson of Berlin separates from the immunised serum an Antitoxin by means of recently precipitated alumina; a weak alkaline solution dissolves out of the deposited magma the Antitoxin required, which is thus purified and concentrated. Most of the early English reports were obtained from Aronson's preparation.

Aronson's diphtheria antitoxin is now procurable in London in two strengths; A contains 100 units to the Cc.; B contains 200 units to the Cc.; the higher strength having been discontinued owing to the slight demand for it. These are preserved by Trikresol, a harmless agent, and they are stated to keep well for velve months. A single dose of 5 Cc., of B, 1,000 nits, once injected is sufficient for a case of medium verity, but in more violent attacks more can be given ith safety. Phials containing 5 or 10 Cc. are supplied E. Schering, under German government control.

Units of Immunity:—

The remedial strength of this antitoxin is such that hen 0·001 Cc. is mixed with the minimum quantity of phtheria poison sufficient alone to kill a healthy uinea-pig, weighing 20 to 25 ounces, in forty urs, and the mixture injected, no toxic symptoms llow. Ten times this amount, capable of neutralising n times this amount of diphtheria poison, is now most universally adopted as the standard unit of tency. So every Cc. of Aronson's Antitoxin con-ins 100 units of immunity.

Behring's Serum is now sent out in phials in two rieties; 0, with a yellow label, contains 0·5 Cc. 400-d = 200 units of immunization; I. with green label 5 Cc. 400-fold = 600 units, a single remedial dose, a ophylactic dose; II. white label, 2·5 Cc. 400-fold = 1,000 its, a double dose; III. with red label, 3·75 Cc. 400-fold 1500 units. 'Extra potent' D vials contain 500 and 600 units per Cc. Keep these serums in a dark cool ice free from frost. Of Normal Serum, 0·1 Cc., mixed th ten times the dose of diphtheria toxin renders the ter harmless to a guinea-pig weighing 300 grammes. e Cc. of this serum is their Protective Unit. It is plied either in a dry or liquid state.

Merck's form contains 250 units in each Cc.; 4 Cc., 1,000 units, is the usual dose for an injection to cure htheria, but in serious and critical cases 1,500 and n 3,000 have been administered.

The French Serum of Roux requires 10 Cc. to furnish same results as 4 Cc. of the Merck Serum. For ventive use 200 units of Roux Serum are given.

The unit of Roux is a Toxin Solution, 0·1 Cc. of ich kills a guinea-pig weighing 500 grammes in 48 rs. If 1 Cc. of this Toxin is rendered harmless by 5 Cc. of his Serum, then 1 Cc. of Serum is capable protecting 100,000 grammes of guinea-pig against Cc. of Toxin. Then the protective power of the um is 100,000.

The British Institute of Preventive Medicine now supplies diphtheria antitoxin dry in tubes of 3,000 units, and fluid in vials of 2,000 units. 200 units are a preventive dose; for cases of moderate severity a dose of 1,500 units is injected, while for the worst cases even 3,000 units may be used. The serum should be kept in a dark, cool place, in an ice safe if possible.

## *References.*

The earliest report of the use of the antitoxin serum is found in the Deut. Med. Woch. of April 27, 1893; this is noted in B.M.J.E. i./93,83. Behring and Kossel were the investigators; they give notes of 30 cases of diphtheria, so treated, of which 24 recovered, or 80 per cent.

There is a résumé of the results of such treatment in 220 cases by Ehrlich, Kossel, and Wasserman, in B.M.J.E. i./94,71. These cases were treated by the serum of goats rendered immune by injecting doses of dead diphtheria cultures. Of these 220 cases the mortality among 153 which did not require tracheotomy was 23·6 per cent. Of these, 6 cases were treated on the first day and all recovered; of 66 cases treated on the second day 97 per cent. recovered; of 29 on the third day 86 per cent. recovered; of 39 on the fourth day 77 per cent. recovered; on the fifth day only 56 per cent. recovered.—B.M.J. i./94,1374. Early treatment, they say, *ensures* success.—B.M.J. ii./94,1012.

Hahn, of Berlin, supplied the next series of cases, 65 in number; of those which required tracheotomy 44 per cent. recovered; of those without opening the trachea 72 per cent. recovered.

The experience of Weilger showed a reduction from 53 per cent. to 28 per cent.

Katz inoculated 72 children who had been exposed to diphtheria; of these only 8 developed the disease and all recovered. He reported that in his cases the mortality diminished under antitoxin treatment from 41 per cent to 13·2 per cent. in a series of 128 cases.—L. ii./94,152.

First English reported case by Eastes, 5 Cc. of Aronson's preparation in a child of 10 years, with recovery.—B.M.J. ii./94,125.

The second case, by Goodhart, age 3 years, one dose of 12 and one of 8 minims of Aronson's antitoxin were used; recovery.—B.M.J. ii./94,180

Recommended as a prophylactic for nurses.—B.M.J. ./94,376.

Report from International Congress. Roux reported resulting decrease of death-rate from 51 to 24 per cent.; ronson stated that his death-rate was 14 per cent. in erlin.—L. ii./94,675; B.M.J. ii./94.610. Further reuction of Berlin death-rate to 11·2.—B.M.J. ii./94,826.

On units of immunity. B.M.J. ii./94,667.

Goodall's objections to the reports of Roux and Katz on s success as a prophylactic.—B.M.J. ii./94,725.

Statement of Roux' method, with ten successful cases Norfolk.—B.M.J. ii./94,771,820,931.

A summary of nearly 900 foreign cases.—B.M.J. ii./4,889. Summary of progress.—B.M.J. ii./94,1122.

Lecture by Sims Woodhead at College of Physicians nd Surgeons. Klein's process and his criticism of that f Behring.—B.M.J. ii./94,1393; L. ii./94,1409,1415.

Virchow approves the serum, but condemns Behring's eories.—B.M.J. ii./94,1400.

Summary of 95 English cases, death-rate 23·1 per ent.—B.M.J. i./95,259.

Account of a visit to the Paris Institute and report on e cases of Roux and Martin.—L. ii./94,1173,1235.

Fraser suggests the storage of antitoxin as a powder btained by evaporation in vacuo over sulphuric acid.—.M.J. i./95,554.

Favourable reports from Vienna.—L. ii./95,283.

Reports of discussions at the British Medical Association Meeting.—B.M.J. ii./95,461; L. ii./95,289,355,74.

Antitoxin serum as a culture medium for tubercle cilli.—B.M.J. ii./95,907,1198,1265,1325,1390.

Results at Middlesex Hospital.—L. i./96,567.

Met. Asy. Board Rep.—L. i./96,941; B.M.J. i./96,855.

Recommended use for diphtheritic ophthalmia.—L. /96,712; B.M.J.E ii./96,35,83; L. i./97,1606.

Analysis of the results at University College Hospital. —B.M.J. i./96,197,308,694.

Report of Virchow from Children's Hospital, Berlin, at mortality has fallen from 43 to $9\frac{1}{2}$ per cent.—.M.J. i./96,52.

Report on results of 538 prophylactic injections, 18 ecame infected.—B.M.J. i./96,928.

Report on the relative strengths of the various diphtheria antitoxins by the Lancet Commission.—L. ii./96,182,271.

Bokenham's views on the serum.—L. ii./96,522,544.

A lecture by Sidney Martin.—L. ii./96,1059.

A report upon 5,000 American cases.—B.M.J. i./96, 32; ii./96,37.

Report on antitoxin as used in the hospitals of the Met. Asylums Board.—B.M.J. i./97,1376.

Sydney Hospital, the mortality of last 300 cases treated without serum was 52; that of the first 300 cases with serum, was 20.—B.M.J. ii./97,1177.

British Med. Assoc. Annual Meeting. Preliminary Report on Behring's serum in treatment of diseases not due to the Klebs-Löffler bacilli.—B.M.J. ii./97,1709.

On the modes of preparation of diphtheria antitoxin. —B.M.J. ii./97,1711.

Results of treatment by antitoxin to procure immunity.—B.M.J. i./98,687,816; L. i./99,248.

A summary of the complications following the use of Antitoxin.—Pr. lx.371; L. i./99,891.

A review of the progress and uses of Antitoxin by Nestor Tirard.—Pr. lviii.314.

A tabulation of the results of the Antitoxin treatment of laryngeal diphtheria.—M.C. March 1898,445.

Clinical Soc. Rep. on 633 cases under Antitoxin.—B.M.J. i./98,1454; L. i./98,1538.

Results in London are less favourable than in Paris and Berlin.—L. ii./98,1457.

Appeal for its early use in private practice.—L. ii./98, 1545,1732.

Local action of crude diphtheria toxins.—B.M.J. ii./98,596.

Recent results in London Fever Hospitals: good all. —B.M.J. i./99,197,268.

A statistical résumé of improved results.—B.M.J. ii./99,1788.

Tabulated results of 200 cases in Manchester.—L. ii./99,1082.

Antitoxin treatment has diminished the death-rate, but the proportion of cases of paralysis is greater.—L. ii./00,561.

Marsden's summary of recent results.—B.M.J. ii./00,658.

Results of 31 recent cases.—L. ii./00,1064.

Dosage considered.—B.M.J. ii./00,1388.

Antitoxin serum is also efficacious when given by the mouth or rectum.—L. i./01,400,971.

Anti-diphtheritic serum in Italy has recently become contaminated with the toxins of tetanus and has caused fatal results.—B.M.J. i./01, 228, 293,417.

Good results from prophylactic use.—L. i./01,247.

**Leprosy.**

A method of treating leprosy by a serum was discovered by Carrasquilla, and was communicated to the Medical Academy of Bogota, Columbia. He injected the blood of lepers into horses and goats, and from these obtained a serum which he used upon leprous patients. This method caused improvement in the sense of touch, the skin eruptions turned pale and desquamated, the edema lessened, and a gradual improvement followed.

Later results have proved disappointing.—B.M.J. i./99,99.

**Mallein.**—A growth of the glanders bacillus in glycerinated broth.

This vaccine toxin is used as a test for the presence of glanders in sick horses, and German physicians have suggested that it may be used as a diagnostic agent in man. In a few cases it has been njected for the cure of chronic glanders in man, and has produced great improvement.—Bonome and Buschke see Merck's Reports, 1894,77, and 1897,89). At the nternational Veterinary Congress of Berne in 1895, the iscussions resulted in a general agreement as to the alue of Mallein. The Health Department of New ork gave notice in 1896 of a supply of Mallein for the iagnosis of glanders in horses. This preparation was made from Nocard's formula and was supplied in single oses of 2·5 Cc.—New York Med. Jour. lxiv.232. The Mallein of the Brit. Inst. Prev. Medicine is injected in ose of 1 Cc. for diagnostic use; complete reaction comprises a rise of 2·7° F., and an extensive hot and painful local swelling.

Note on important results of its use at Glasgow.—B.M.J. i./00,595.

**Plague, The.**

Haffkine worked at a modified toxin or virus, Yersin nd others upon the invention of an Antitoxic Serum to cure the Bubonic Plague, and for use as a prophylactic. A summary of the experiments is given B.M.J. i.97,357. There is a report of a lecture on Plague Serum, given at the Moscow Medical Congress in B.M.J. ii./97,1295.

The Plague in Italy, and the Yersin treatment.—L. i./97,604.

Haffkine using anti-plague serum in Bombay.—L. i./97,768,907; B.M.J. ii./97,1864.

Bombay, the Yersin treatment for the Plague is less successful than it proved to be in China and appears to have failed.—L. i./97,976,981; L. ii./97,225,1547.

Bombay, report of the German Commission on the Antitoxin treatment.—L. ii./97,333.

Results of the use of the serums of Yersin and Lustig; they do not seem curative.—L. i./99,1212.

The use of serum is practically a failure.—B.M.J. ii./99,698; B.M.J.E. i./99,75.

Report of the Indian Plague Commission; the Anti-plague vaccine is still recommended, but its effect is not certain. Its use lessens the death-rate, and also the proportion of the people attacked. The protection afforded is not immediate, and does not certainly last many weeks.—B.M.J. i./00,455,461: L. i./00,567,724.

Experiments on the efficacy of the different constituents of Haffkine's plague prophylactic.—B.M.J. i./00,501.

Lecture by Calmette on the use of plague serum.—L. ii./00,1366; B.M.J. ii./00,1400.

Methods of making plague antitoxic and preventive serums.—B.M.J. ii./00,1241.

Haffkine's prophylactic, mode of use.—B.M.J. ii./00, 1243.

Lustig on curative and protective inoculations.—B.M.J. i./01,206; ii./00,311,1236.

Choksey on the same results.—B.M.J.E. i./01,15.

A special Plague number of the B.M.J., Oct. 27, 1900.

**Pneumonia.**

An Anti-pneumo-coccic Serum, is recommended by Pane, of Naples. Report from Guy's Hospital: it protects from pneumo cocci obtained from two different sources.—L. i./99,954.

Further experiments on animals.—B.M.J. ii./99,1247.

**Rabies Antitoxin, for Hydrophobia.**

Pasteur, of Paris, founded the system of treating rabies by the injection of an emulsion of the cord, believed to contain the poison, no bacilli being yet found. The rabies poison having a special affinity to the spinal cord, dogs were inoculated with poison obtained from sections of the spinal cord at different stages of treatment. In the end an immunity was set up in the animals; an anti-rabic virus was obtained and injected into patients with hydrophobia; it was also used as a prophylactic injected into persons bitten by mad dogs who had not developed hydrophobia. Many successful cases were reported, but grave doubts have been thrown upon the treatment, and it has even been asserted that hydrophobia has been caused by this method.

The mortality under Pasteur treatment in Paris is said to be 3 per 1,000 in place of the original rabic death-rate of 200 per 1,000.

Note on one death after bite on finger; treatment began 21st day after bite.—B.M.J. ii./94,664.

The New York Pasteur Institute in the year 1893 treated 85 bitten persons with rabies antitoxin as a prophylactic, and no death occurred.—B.M.J. ii., 94,776.

Discussion: Pasteur's method of inoculation by far the best treatment.—L. ii./94,1220.

Cochin China results, among 49 dog-bitten patients treated by Pasteur's anti-rabic methods there were only two deaths.—B.M.J. i./95,832.

Tizzoni and Centanni upon a mode of preparing an anti-rabic serum.—L. ii./95,659,727,780.

An editorial on serum antitoxin for rabies as prepared by Tizzoni.—L. ii./95,795; B.M.J.E. i./95,95.

Tizzoni recommends a dose of 20 Cc. of his anti-rabic serum at once after a bite; this equals 2·5 Gm. of his dried product.

Report of the Pasteur Institute, Paris, for 1897; ,521 cases treated, 8 deaths.—B.M.J. i./98,1305.

Results of use in Russia.—B.M.J. i./98,1412.

Report from Rome.—B.M.J. i./98,1556. From Bologna.—L. ii./99,854. From St. Petersburg, a mortality of only 0·6 per cent. among 318 cases.—B.M.J. i./00,109.

**Sarcoma and Malignant Tumours.**

Coley states that after partial success in treating arcoma by inoculations with the virus of erysipelas, he now uses a combined injection of the toxins of *Streptococcus erysipelatosus* and *Bacillus prodigiosus*. Six cases of sarcoma either cured or much relieved, and 8 cases of carcinoma without a death, are described in Trans. Amer. Surg. Assoc. vol. xii. 1894.183. Keen (*ibid.* 207) in 7 cases of sarcoma found no arrest of growth Willard (*ibid.* 213) suggests that the toxin of erysipelas might be found to destroy the bacilli of tubercle. Twenty-four recent cases by Coley, the toxin is injected into the tumour, with retarding influence.—N.Y. Med. Record, Jan. 1895,65,87; Pr. liv. 377,379.

The British Institute of Preventive Medicine now supplies Coley's fluid in phials of 2 Cc., sterilised by 0·5 per cent. of phenol, for hypodermic use. *Dose.*—Half a minim at first, injected near the tumour.

The opinions of Emmerich of Berlin upon the action of the serum of animals which have been previously inoculated with erysipelas.—L. i./95,1154; B.M.J.E., i./95,7595.

Cases of malignant disease improved under the use of the serum of Richet's manufacture.—B.M.J.E. i./95,88; ii./96,63.

The use of anti-cancer serum in France.—B.M.J.E. ii./96,47.

A lecture on the treatment of cancer by animal fluids.—L. i./96,1496.

Mammary tumour cured by an erysipelas serum.—B.M.J. i./96,280.

A suggestion that serum from asses poisoned by inoculations of epithelioma juice may be useful in malignant disease.—B.M.J.E. i./96,91.

Glioma of the eyeball treated by anti-cancer serum. death.—B.M.J.E. i./96,95.

The toxins of erysipelas used as a treatment for malignant tumours are dangerous to life and good effects doubtful.—B.M.J.E. ii./96,51.

Note on the use of Coley's fluid for cases of inoperable cancer.—L. i./98,354.

Favourable results of injections of Coley's fluid for a fibro-sarcomatous tumour.—B.M.J. i./98,948.

Cancerous tumours were lessened in size by use of antitoxins obtained from the streptococcus of erysipelas.—M.C. Feb.1897,373.

Salvati and Gaetano report use of serum from a horse inoculated with sarcoma juice as a cure for cancer, but no real arrest of growth occurred.—B.M.J.E. ii./95,60.

Favourable reports from Emmerich and Zimmerman of the use of erysipelas serum for malignant tumours. —B.M.J.E. ii./95,88.

Swain, essay on the toxins of streptococcus erysipelatosus and of bacillus prodigiosus.—B.M.J. ii./95,1415.

In four-fifths of cases, although no real cure was effected, yet improvement was beyond question.—B.M.J.E. ii./95,103.

Review of a work on the use of toxins in treatment of sarcoma and cancer.—B.M.J. i./98,1269.

Case of recurrent sarcoma treated by Coley's fluid, but not cured.—B.M.J. ii./98,226,451.

Summary of results on sarcoma.—L. ii./98,888.

Has no effect on leprosy.—B.M.J.E. i./99,11.

### Septicæmia, Anti-Streptococcic Serum.

For the many forms of fevers due to, and associated with, septicæmia a variety of preparations have been in use. Puerperal fever and the varied forms of septicæmic infection following child-birth have been treated in many instances by these serums with good results.

The Anti-streptococcic Serum, prepared by the British Institute of Preventive Medicine, is supplied in a liquid state in cases of three phials, 10 Cc. in each, and in a dry state in tubes containing the equivalent of 10 Cc. of the liquid serum.

Marmorek introduced this mode of treatment.—L. i./95,1021.

The value of streptococcus antitoxin for puerperal septicæmia.—L. ii./95,1106; B.M.J. ii./95,655; i./96, 1500.

Anti-streptococcic serum for puerperal septicæmia; discussion on its use.—L. i./98,577; a case recovered, 784.

Results of use for erysipelas and septicæmia.—L. i./96,75,521.

Erysipelas recoveries.—L. i./98,502; B.M.J. ii./00, 18; i./01,575.

Scarlatina, successful use for.—M.C., Feb. 97,372.

Landry's palsy seems to have followed its use.—L. /96,1033.

Cases of pneumonia treated by anti-pneumococcic serum, recovered.—B.M.J. i./97,1278,1279; one death, B.M.J. i./97,973.

Use in endocarditis, discussion.—L. ii./96,1079,1264. 1339; i./97,520; ii./97,92,707.

Puerperal fever, recoveries under serum.—B.M.J. ii./96,1033,1285,1825; B.M.J. i./97,519; ii./97,14, 1257; i./98,298; L.ii./97,387 791,1243; L. i./99,165, 197; ii./99,564; ii./00,1725,1873; B.M.J. i./99,88; ii./99,78; i./00,1278; ii./00,583.

Puerperal septicæmia treated, death.—L. ii./97,309; L. i./98,1321; i./99,197.

Discussion on use in puerperal fever.—B.M.J. i./98, 559,1445.

It is recommended to use anti-streptococcic serum as a prophylactic in cases which seem likely to involve a risk of blood poisoning.—Pr. lviii.347.

Pyæmia, a death after use.—B.M.J. i./98,1654. Recovery after use.—L. ii./98.1056.

Ulcerative endocarditis treated, recovery.—B.M.J.E. ii./98,3; L. ii./00.168. A death.—L. i./99.1558.

Venereal sores treated by injections.—B.M.J. ii./98, 1610.

Use in several pathogenic infections.—L. ii./98,81.

Recommended for use in carbuncle.—B.M.J. ii./98. 1427.

Case of septicæmia, recovery under serum; its use as a germicide.—L. i./99.373.

Four cases of generalised septic infection treated without results.—B.M.J. i./99,142.

Variola treated by serum, the critical period was shortened, the toxæmia less, and there was less collapse. —B.M.J. i./99,1144.

Infective endocarditis, death after treatment by serum —L. ii./99,1225.

Editorial résumé on recent uses.—L. ii./99,1284.

A lecture and discussion on anti-streptococcic serum. —B.M.J. ii./99,1358,1359.

Three septicæmic cases made rapid recoveries.—B.M.J. ii./99,76.

Obstetricians have derived no benefit from this form of serumtherapy.—B.M.J. ii./99,967. General discussion.—B.M.J. ii./99,965,972.

Pyrexia of phthisis, use not desirable.—B.M.J. ii./00,1158.

**Serpent Venom. Anti-venene.**

The preparation of an anti-venomous serum has been a subject of research in France, especially by Calmette, since 1890, see articles by Fraser and Ray Lankester, B.M.J. i./95, 1309,1336; ii./95, 1461,1637. Calmette had a large collection of venomous serpents, and his experiments upon them seemed to show that the venom of all snakes is of a similar nature; and again that the Anti-venom Serum neutralises the poison of all serpents and of scorpions. Calmette obtained his remedy by the inoculation of horses with the poison of the Cobra di Capello: his present serum possesses a strength of 1 in 20,000; that is to say, $\frac{1}{10}$ Cc. subcutaneously injected into a hare of two kilogrammes in weight suffices to protect it from snake poison which kills a similar hare in eight hours.

The British Institute of Preventive Medicine supplies anti-venene in tubes of 10 Cc.

The injection requires to be made at once, or within an hour in man; death seldom occurs from serpent poison under three hours. The serum is said to keep well in a cool dark place for a year.

Immunisation of animals.—B.M.J. i./95,1309.

Fraser on antivenene and the cure of snake poisoning. —B.M.J. ii./95,416,1165; i./96,957; L. i./96,1156.

Experiments in France.—B.M.J. i./96, 500.

An editorial article on Calmette serum.—B.M.J. i./96,405.

Successful use in India.—B.M.J. i./96,444,500 L. i./96,388.

In the Malay States.—B.M.J. ii./97,1456.

Recoveries under antivenomous serum.—B.M.J. i./96,1501; P.J. ii./96,457; B.M.J. i./97,6; L. ii./99, 438; B.M.J. ii./99,1412,1732.

Serpents' bile appears to be an antidote to serpents' enom.—B.M.J. ii./97,125,295. Also to some disease oxins as of tetanus and diphtheria.- B.M.J. ii/98,627.

Calmette, his own report on the work in laboratory at ille, and insists upon the need of suiting the dose to he size of the animal operated on.—B.M.J. i./98,1253.

Emulsion of supra-renal capsules of guinea pig coun-eracts poison of cobra, when injected into same animal. L. ii./98,23.

A criticism on Colmette's views on the use of his ernm, referring to West Australian snakes.—B.M.J. i./98,1805.

The neutralising power of Calmette's serum.—B.M.J. i./99,781; ii./99,660.

Its value is now established.—L. ii./99,1825.

On a method of standardisation.—L. i./00,1433.

## Syphilis.

The old treatment by syphilisation originated by Auzias Turenne and supported by Boeck need not be here considered.

Recent experiments on the cure of syphilis by animal fluids have not given promising results.

Cases treated by the serum of mercurialised horses gave negative results.—Pr. lx.315; B.M.J.E. i./98,52.

From Moscow a report of five cases of primary syphilis treated with good results by serum obtained from tertiary stage cases.—L. ii./95,1060; B.M.J.E. i./95,57.

Gangrenous chancre, rapid cure by a serum prepared in England.—B.M.J. i./96,334.

Case of syphilis under treatment by an anti-syphilitic serum, variety not specified.—L. i./96,425.

Treatment by the serum of syphilitic patients, favourable results in Russia.—B.M.J.E. ii./99,64.

## Tetanus Antitoxin.

The idea of curing Tetanus by an animal extract is due to Cattani and Tizzoni in Italy. The method adopted is that of rendering animals immune to the tetanic poison by repeated inoculations with a culture of the bacilli of tetanus. After such a course of treatment it is found that the serum of these animals is able to render the tetanus bacilli innocuous, and other animals safe from the disease, when the tetanic poison and the perfected serum are simultaneously injected. At this stage the animals are bled, the serum is collected, is concentrated and dried in vacuo, and the remainder (the antitoxin) is supplied in sealed tubes for use in the human subject. This as now sold is costly. It is also prepared at the Pasteur Institute in Paris, and by the British Institute of London.

The general result has been to show that in acute cases, supervening at once on an injury, the antitoxin has been useless; but that in cases where the onset is long delayed the antitoxin does exercise a controlling influence and such cases generally recover under its use.

There are three forms of tetanus antitoxin procurable n the Continent; made from the methods of Tizzoni nd Cattani, Roux, and Behring.

Behring's antitoxin is supplied both in powder and quid: the standard contains 100 units per gramme : is supplied in bottles containing 5 grammes, that is 00 units, this is a single dose for a man or horse: this mount is dissolved and injected. The antitoxin fluid for prophylactic use, and has a standard of 5 units.—Merck's Report, 1897.

Tizzoni's antitoxin is also imported into England and as obtained the greatest credit.

The British Institute of Preventive Medicine also upplies a tetanus antitoxin, dose 10 to 20 Cc. every 6 r 12 hours, according to severity of symptoms. uccessful in use.—L. ii./97,1583.

Behring and Kitasato pursued a similar method to at of Italian observers. In 1891 they found that e serum of rabbits, rendered immune to tetanus, was le to destroy the toxins of tetanus in other animals; the perience was then extended to human treatment.

The earliest reported case; a babe 9 days old was fected by trismus neonatorum; injected by Kitasato ith serum from an immune rabbit.—Berlin. Klin. och., No. 7, 1891.

Summary of Tizzoni's method.—B.M.J.E. i./91,174.

Six cases by Taruffi. The blood of these patients ve tetanus to rabbits; after injection their blood was rmless to rabbits.—B.M.J.E. i./92,75.

Wound of foot cured on 28th day by Behring serum. B.M.J.E. i./93,88. This serum contains the antitoxin, e case cured.—B.M.J.E. ii./93,31.

Leaderette. The dried serum must be kept prepared; ed early; sold in tubes of 5 grammes.—B.M.J. ii./94,433.

May be liquefied by water heated to 100°, not over, e death under.—B.M.J. ii./94,934.

Statistics of tetanus in England for twenty years.— M.J. ii./94,672.

Buchner on action of antitoxin.—L. i./94,239.

Serum appears to be actually fatal to the tetanus ison. B.M.J.E. ii./94,88.

Behring's serum appears to be three times as strong the antitoxin of Tizzoni.—B.M.J.E. ii./94,52.

Preparations and properties; one gramme of dry anti- in corresponds to 10 Cc. of serum.—B.M.J. i./95, 464.

**Directions for treatment by the Antitoxin.—Pr. liv. 323.**

Kanthack gives a summary of results in 54 cases, showing that Tizzoni's is more successful than Roux'.—M.C. 1895,92.

Recoveries under antitoxin treatment.—B.M.J. i./95,924; L. ii./95,1101,1424,1431; B.M.J.E. i./95,104; B.M.J. i./96,400; L. i./96,287,1140; L. ii./96,1012; B.M.J. ii./96,648.

Fatal cases under antitoxin treatment.—L. ii./95,1432; B.M.J. i./96,211,321; L. i./96,157,847; L. ii./96,381; B.M.J. ii./96,654,1828.

A summary of the results of 38 cases.—L. ii./95,329.

Veterinary surgeons advised to use a preventive serum.—B.M.J.E. ii./95,83.

A recovery under Tizzoni's antitoxin after failure of Roux' to relieve.—L. i./97,1539.

Recoveries, recent.—L. i./97,282,377,630,1149,1539; L. ii./97,287,1315,1472,1583; B.M.J. i./97,981; ii./97,469,652,907,1572; L. ii./98,794.

Fatal traumatic cases, recent.—L. i./07,384,1095; L. ii./97,1114,1452; B.M.J. i./97,332,981.

Moscow Medical Congress: relieves the spasms even if not curative.—L. ii./97,636.

Rheumatic tetanus cured by antitoxin.—B.M.J.E. ii./97,71. Results in puerperal cases.—L. i./01,1201

The differences between the antitoxins of Tizzoni and Behring are but slight.—L. ii./97,1472.

Recent recoveries after serum injections.—L. ii./98,794; i./99,1091; ii./99,89,553,1012; B.M.J. ii./98,83; i./99,337,401; ii./99,1703; i./00,508,1019,1416; i./01,340,395,763.

Recent deaths under serum injections.—L. ii./98,1326,1432; i./90,1156; ii./99,1807; B.M.J.E. ii./98,12; B.M.J. i./99,17; ii./99,9; ii./00,1779; B.M.J.E. i./01,35.

## Intra Cerebral Injection.

MM. Roux and Borrel have introduced a method of using Anti-Tetanic Serum by injection into the skull; intra-cerebral or sub-dural, that is beneath the dura mater of the brain. The first experiments were made in Paris, in 1898: recovery followed in the first case.

More recently this treatment has been used in additon to the ordinary sub-cutaneous injections.—B.M.J.E. i./99,27.

Summary of cases.—B.M.J.E. i./99,39. '

Recoveries after intra-cerebral injections.—L. i./99,
290; ii./99,89; B.M.J. i./99,10,826,1333; B.M.J.E.
./99,27.

Deaths following intra-cerebral injections.—B.M.J.E.
./98,76; i./99,83; B.M.J. ii./99,1413; L. i./99,870;
./00,1420.

**'uberculin.** *Syn.* Kochin, Parataloid.

Imported from Germany in bottles containing 1 and 5 Cc.

The use of Tuberculin for the treatment of human
ıberculosis has much diminished. The chief purpose
) which it is now put is as a diagnostic of tuberculosis
1 cattle, for its injection into healthy animals produces
o reaction, while in tubercular beasts there is a constant
se of $1\frac{1}{2}^\circ$ to 6° F. after injection; the dose of the
uberculin of the Brit. Inst. of Prev. Med. is 16
ıinims.

Results of injections on 36 cows, of 34 animals which
ıowed rise of temperature 33 were found to be
ıberculous.—L. i./99,1041.

*Dose.*—One-thousandth of a cubic centimetre, in-
·eased to one-tenth, as follows:—

The maximum dose for undoubted Tuberculosis of any nature
adults is, for the first injection, 0·001 cubic centimetre.
or children it is always advisable to use one-tenth to one-half
ıe specified dose, according to age. At first the injections
ıould only be made at intervals of at least one day. After-
ırds the dose must be increased by not more than 0·001 Cc.,
ıtil 0·005 Cc. is reached, then it may be increased by 0·002
·. After 0·01 Cc., according to the behaviour of the case,
more rapid increase is allowable, but doses of 0·1 Cc. should
›t, as a rule, be exceeded. As a diluent phenol solution
a strength of 0·5 per cent. is usually employed, but a stronger
ıenol solution may also be used. The dilutions are to be
oduced by first making a 10 per cent. solution—adding to
Cc of the Tuberculin 9 Cc. of a half per cent. phenol
lution. In the same way a 1 per cent. solution can be pre-
red from the 10 per cent. No larger quantities of the solu-
ın should be prepared than are required for a few days' use.
soon as the solution becomes turbid it is unfit for further
e. Before commencing the treatment the temperature of
e patient must be taken—morning, noon, and night—for
veral days. An exact examination of the organs of the
est and larynx must be made. The expectoration must also
tested for tuberculous bacilli. In cases of diarrhœa the
crement must be tested. The injections are, if possible, to
made early in the day, and the temperature must be taken
ery three hours. If in consequence of the injection the
nperature rises above 38° C. (100·4° F.), the subsequent
ses must not be increased. The same dose or a less one must

be given until the temperature throughout several days no longer rises above 38° C. (100·4° F.). Generally, the injections should not be repeated until the symptoms of the reaction have passed off. If the higher temperature continues for some time the next injection must not be made until the temperature does not exceed 38° C. (100·4° F.). In doubtful cases depending on diagnosis in very recent tuberculous affection—for example, in catarrh of the apex of one lung, tuberculosis of a joint, lupus of inconsiderable extent, &c., a dose of 0·005 Cc. should be commenced with, which, in case no reaction follows, may be increased to 0·01 Cc., and afterwards to 0·02 Cc. Special care is required in all cases of tuberculosis of the lungs or the larynx, extended lupus on the face (on account of brain symptoms, which not infrequently occur), tuberculosis of the bowels (perforation), tuberculosis of the brain, and also in complications of the heart, diabetes, &c. If hæmoptysis or other dangerous symptoms appear the use of the Tuberculin must be suspended. The examinations of the sputa are to be repeated about every week. It is also desirable that the weight of the patient should be ascertained at regular intervals. It is recommended that the syringe which is used be examined carefully as to its contents, and be disinfected before and after use with absolute alcohol. [The syringe employed contains 1 Cc., and is graduated in tenths.]—*Translation from Dr. A. Libbertz.*

Tuberculin is stated to be a glycerin extract of pure cultivations of tubercle bacilli, and is a remedy introduced by Koch in Germany, as a hypodermic injection for the cure of diseases depending on the growth of the tubercle bacillus, such as phthisis, acute miliary tuberculosis, and cutaneous lupus. This glycerin solution is said to contain only a fraction of one per cent of the active principle. It appears to act by destroying the tissue invaded by the tuberculous growth, and is not definitely destructive to the tubercle bacilli. It has been suggested that there is an analogy between alcohol as a result of the growth of the yeast organism, and tuberculin as a product of the bacilli of tubercle.

While it has been shown that tuberculin has a powerful action on many tuberculous neoplasms, there have yet been only too obvious signs that it is a dangerous remedy and one the sources of danger from which are not yet completely understood. The most obvious effects are a rapid rise of temperature, which seems to depend upon the existence of tuberculous disease for its intensity; a period of depression with chill and rigors is followed by high temperature and inflammatory fever, and subsequent defervescence. The tuberculin seems to act upon the tubercular lesions, and even partly to destroy them, or their surroundings, and subsequently there is a risk of urther symptoms from blood poisoning dependent on this destruction.

In many instances the tuberculin has appeared to cause very serious fall in the blood pressure, leading even to fatal issue; in others the mischief has seemed to be due a coagulating influence on the blood corpuscles, tending blood stasis, congestion and hæmorrhage, especially in nhealthy areas adjacent to tubercular deposits; and again berculin does at times show an irritant effect on the hite blood-corpuscles (leucocytes), causing inflammatory wellings. In cases where these evil results have been voided there has been observed in a considerable roportion of suitable cases, a marked improvement esulting from a series of injections of tuberculin. The ost favourable results have been noticed in cases of ommencing phthisis pulmonalis, and in skin affections, specially in lupus of the face, but where phthisis has een far advanced evil results have been very frequent.

Communications on Tuberculin.—L. ii./90, 1085, 118, 1120, 1205, 1239, 1257, 1290; i./91, 50, 168, 55, 651 920; ii./91,976; B.M.J. ii./90,1193,1321, 372,1434; i./91,125,127,951; ii./92,169; B.M.J.E. /93,63.

In lupus, of real value, as preliminary to ordinary cal treatment, in carefully selected cases. Unjustifi-le when lupus complicated with tuberculosis of lungs other internal organs.—B.M.J. i./93,1154,1319; i./ ,341.

Leprosy.—Of no therapeutic value, and not free from nger.—B.M.J. i./93,926.

Injections of tuberculin for enlarged cervical glands lowed by tuberculous abscesses in the hands. Apparent mplete recovery.—L. ii./93,494.

Specially favourable results in Egypt.—B.M.J.E. '93.99.

A valuable diagnostic, specially for cattle, the violence symptoms limiting its applicability in human subjects. temperature of an animal rises rapidly to 104° F. ring the first 24 hours after an injection it is certainly berculous.—L. i./93,448.

Sequel of a case of tuberculosis of lungs treated by ch's tuberculin and notes of the post mortem.—L. 95,1219.

French experiments on the serum treatment of tuberculosis.—B.M.J. i./96,240.

Melbourne, Australia, Government recognition of the value of tuberculin as a diagnostic for cattle.—B.M.J. i./98,1292.

Used as a diagnostic of tuberculosis in man.—B.M.J. i./96,690; L. i./00,1703.

Koch's Tuberculin, four varieties specified.—B.M.J.E ii./98,31.

Fourth Congress on Tuberculosis in Paris, report.—B.M.J.E. ii./98 25.

**Tuberculocidin Solution.**—*Syn.* Alexin. This preparation, which was fully described in our 8th edition has passed out of use.

**Tuberculin R or TR, of Koch.** (Deutsche Med. Woch. 1897, No. 14.) **Tuberculinum Kochii, P.G.iv.**

An opalescent liquid containing 10 milligrammes of solid substance in each Cc. It may be diluted with a 20 per cent. solution of glycerin. The dose is one milligramme of solid substance to begin with, increased to 5 and then to 20 milligrammes. Injections are generally made every second day.

This preparation often contains micro-organisms: i gives no decisively good results in phthisis, but is usefu for lupus.—Pr. lx.412.

Produces no striking or specific effects on tuberculosis—B.M.J.E. i./98,39,47,55; Ph.J. i./97,367,804.

Cases of lupus treated with excellent results.—B.M.J. ii./97,207; L. i./98,168; B.M.J. ii./98,80.

Report of cases in Spain.—an impossible remedy.—B.M.J.E. ii./97,31.

Is not a cure, but has no special evils.—B.M.J.E ii./97,103.

Living bacilli of tubercle are found in this ne Koch's tuberculin, so that extreme caution in its use i necessary.—B.M.J. ii./98,1235.

Cases of surgical tuberculosis treated with variou results.—L. ii./97,704.

Good effects in nine cases of tuberculous diseas valuable in early phthisis, and for lupus.—B.M.J ii./98,77.

Fails as a cure and as a preventive — B.M.J.E ii./98,27.

Phthisis, recovery of four cases out of thirteen.— . ii./98,194.

**Maragliano's Antitubercular Serum.**

This serum is said to be obtained from horses, asses, nd dogs, by discarding cultures of living bacilli, and sing only the toxic principles separated from these. otes of 82 cases, good results.—B.M.J. ii./95,444; 73,683,1260; B.M.J.E. i./96, 63,79,103; Merck's eport, 1896, 140; Med. Annual, 1896, 578.

Phthisis, 15 cases, no cure effected, but patients im-oved.—B.M.J.E. i./97,92. Other references, ii./97, 1,28,39.

Behring (so famous for his diphtheritic antitoxin), has pressed opinions adverse to the properties of this rum (Deut. Med. Woch., 1897); but, nevertheless, any favourable results have been obtained from its use cases of lupus. It is also applied superficially to pus growths with curative results. The immunising wer of Maragliano's serum is shown in animals by the t that the reaction of an injection of tubercular virus neutralised by the injection of 1 Cc. of this serum.—erck's Report, 1897.

Maragliano's report to the Paris Congress on berculosis.—B.M.J.E. ii/'98,28.

**xytuberculin.** A new bacterial tubercular product prepared by Hirschfelder, of San Francisco: results of its use on 70 patients.—L. i./97,1441; i./98,179. Report on use read at the Paris Congress.—B.M.J.E. 98,27.

**yphoid Fever,** Anti-typhoid Inoculation.

Springing out of the investigations of Widal, who posed a mode of diagnosing the presence of the ease by the agglutination of bacilli, there has arisen antitoxin serum treatment, at first in France, and re recently there has been developed a system of ti-typhoid Inoculations used as a prophylactic. ight, Haffkine, Semple and Leishmann have carried investigations among the English soldiers in India. l the method is now under trial in South Africa. re has as yet been no complete tabulation of results, the reports of a local character afford great promise t a true prophylactic against typhoid fever has been ained. In the experiments of Wright, the serum used was a four weeks' old culture of typhoid bacilli, sterilised at a temperature of 60° C., and preserved by one per cent. of Lysol. The earlier records showed that of 2,835 soldiers inoculated in India, only 27 contracted the disease, and 5 died; while of those not inoculated who numbered 4,860, 213 took the disease and 23 died. At the siege of Ladysmith, Wright reports that of 10,529 soldiers not inoculated 1,489 took the disease (14 per cent.); while of 1,705 who were inoculated, 35 or two per cent. contracted the disease. The death-rate was however the same in both cases, 1 in 4·5. The protective inoculations cause a febrile state, with headache and general aching: in some cases there is sickness and diarrhœa. The inoculated person should remain in bed for at least 36 hours; the blood is found to give Widal's reaction when tested.—L. i./01,403.

Preliminary experiments of Chantemesse.—L. i./97 413.

Antitoxin treatment, a note of French experiments.—B.M.J. i./96, 549.

Note of a typhoid vaccine obtained from a typhoi spleen.—B.M.J. ii./96,1541.

Details of experiences of vaccination with dead bu still poisonous micro-organisms related to typhoi seemed unattended by risk.—B.M.J. i./97,256.

Good effects of serum in four cases.—B.M.J. i./97 259,518. Other cases.—L. ii./99,778.

The serum treatment in Italy.—L.i./98,1332.

Promising results of anti-typhoid vaccination a Maidstone.—B.M.J. i./98,908.

Lecture on typhoid therapy.—L. i./98,101.

Lectures on the chemical products of pathogeni bacteria of typhoid fever.—L. i./98,1665.1737; ii. 98,1,71.

Immunisation against typhoid by injections of a agar culture of typhoid bacilli, killed by a heat of 70° ( —B.M.J.E. ii./98,35.

Normal serum effects on typhoid bacillus.—B.M.J ii./98,599.

Haffkine on inoculations in India.—L. i./00.1698 Discussion.— L. ii./99,41.

Wright's remarks on the introduction of typhoi inoculations into England.—L. ii./99,41.

Wright on the relation between immunisation an he effects of agglutinating substances of the infected rganism.—L. ii./99,1727.

An extended trial is being now made of the preventive se of serum among soldiers sent to South Africa.— . ii./99,1825; B.M.J. ii./99,1495.

Produces resistance to infection.—B.M.J. i./00,1017.

ilitary results.—L. i./00,150.

Protection by inoculation may last for two years.— . i./00,1578.

Results at Ladysmith, Natal.—L. ii./00,95.

Note on the value of anti-typhoid prophylactic jections.—B.M.J. i./01,84.

Excellent results among the Hussars.— B.M.J. /01,336.

## accine, Calf-Lymph.

Vaccine Lymph obtained direct from the calf has veral advantages over the lymph obtained even from althy children. The danger of imparting infectious d other human diseases is absolutely avoided, and there but slight risk of communicating any disease peculiar the cow, because few such are transferable to man, and eir presence is easily detected, even moderate care pre- nting the use of any calf so affected. Erysipelas is of e rarest occurrence. The place of insertion should be all, otherwise the reaction is too great. The amount protection afforded seems to be greater than that orded by humanised lymph. It is supplied preferably tubes, but also between glass squares and on ivory ints.

## ycerinated Calf Lymph.

This is now recognised as the safest lymph for vacci- tion, and it is now proposed by a Vaccination Acts endment Bill, 1898, that if a child has not been cinated when nine months old, the public vaccinator the district shall visit the home of the child, and ll offer to vaccinate the child with Glycerinated Calf mph.

Precaution is necessary to ensure that glycerinated nph is not only potent, but also free from pathogenic teria. Investigations on calf lymph and its preser- ion.—L. i./98,1375,1391.

An editorial article upon Glycerinated Calf Lymph.— M.J. i./98,392.

For the storage and use of lymph it is recommended to mix lymph 50 parts, glycerin 25 parts, and water 25 parts. Pr. lx.284.

A report on the use of glycerinated calf lymph during 1897.—L. i./98,1139.

Lecture on vaccinia, vaccine lymphs, and glycerin action on lymph and micro-organisms.—L. i./98,1237, 1303; B.M.J. i./98,1186,1245.

Reynolds, of Chicago, states that it only remains potent about 120 days.—L. ii./98,1341.

# ANIMAL ORGANOTHERAPY.

## NIMAL GLANDS AND TISSUES AND THEIR PREPARATIONS.

Recent medical experience has not confirmed the ssertions of the value of these remedies, except in the ses of Thyroid, Supra-renal Preparations, and probably one Marrow.]

A summary of the effects of each of the organic tracts in the treatment of mental diseases.—B.M.J. /oo,813.

Ancient Organotherapy reviewed.—Pr. lxvi.420.

**one Marrow Extract, Red.**

The marrow of ox-bone and sheep's ribs has been used a remedy for pernicious anæmia, chlorosis, scurvy, rpura, hæmophilia, and debility. Reports from ermany do not demonstrate any special value in this medy.

**ablets, 1½ grain (0·1 Gm.).**

A glycerin extract is prepared, and may be given in ses of ½ to 1 drachm.—B.M.J. i./94,1172; L. ii./94, 32; M.C. Mar. 1895,431.

Leucocythæmia, valuable in treatment of.—B.M.J. 96,840,956.

**ronchial Glands.** Glandulen.

Is prepared from these organs of sheep.—Pr. lx.219; M.J.E. i./99,19.

Phthisis, trial in, no good effect.—Deut. Med. Zeit. 97,750.

**ablets** contain **0·25 Gm.** (4 grains).

**Phthisin** is another extract recommended for all rms of lung disease, in tablets, each equivalent to Gm. of gland substance.—P.J. ii./98,402b.

**ardin. Heart Extract.**

Hammond, of U.S.A., introduced the use of an tract from the heart muscle of the bullock prepared a process lasting many months by means of cerin, boric acid, and alcohol. This Cardin is said to increase the force and fulness of the pulse, the flow of urine, and the number of blood-corpuscles. Recommended as a cardiac tonic in nervous debility, and for use in anæmia and chlorosis.—Pr. li.298.

**Cerebrin and Myelin.** *Syn.* MEDULLIN. **Brain and Spinal Cord Extracts.**

Paul and Delpech, in France, formulated a method of preparing these remedies from the grey matter of the brains of sheep. They sterilised the liquid extracts by filtration under high pressure in contact with carbonic acid gas. The product contains no organic cells, and is an albuminous liquid containing phosphates, lecithin and cerebrin. Paul reported eleven cases of nervous disease, neurasthenia, ataxia and tabes, in all of which good results followed the subcutaneous injection of this fluid: no ill effects observed. These might be tried for the relief of chorea, epilepsy, and melancholia.

As manufactured in England, they are prepared similarly to the Thyroid Extract (*v.p.* 522), using 1 part by weight of the tissue to 1 volume of glycerin and 1 of chloroform water or 0·5 per cent. phenol solution. Are preferably administered hypodermically.

*Dose.*—5 increased to 20 minims.

**Cerebrin Tablets**, 5 grains (0·32 Gm.).

**Spinal Cord Tablets**, 2½ grains (0·165 Gm.).

Leader on cerebrin, note of comparative failure when tested against solution of borax.—L. ii./93,753.

For chorea, recovery of a case under cerebrin.—L. ii./93,819.

May act as antitoxins; neurasthenia, locomotor ataxy, and spinal paralysis improved.—L. ii./93,1376.

Neurasthenia improved by an extract from brain of rabbit.—B.M.J. ii./93,1321.

Locomotor ataxy much improved by cerebrin.—Med. Ann. 1894,409.

Thirteen cases of tubercle and syphilis improved under extract of sheep's brain.—B.M.J.E. i./94,20.

Brain extracts act as mild tonics in neurasthenia and insanity.—B.M.J. ii./00,819.

**Kidneys.**

A juice obtained from fresh kidneys, and a renal extract were found to have no therapeutic value.—B.M.J.E. i./98,24.

### Liver.

A dry extract made from liver tissue has been found to possess diuretic power, and has been given in France to check hæmoptysis, and with some success.—Presse Med. 1897,209.

For hæmoptysis, epistaxis and menorrhagia is useful. —B.M.J.E. ii./98,79.

### Mammary Glands.

Preparations of these glands have been suggested as likely to relieve amenorrhœa, atrophy of the breasts, and deficient lactation. A German extract is supplied, of which one part is equal to 8¾ parts of the glands; *dose* 5 to 10 grammes three times daily: this has been used in cases of fibroid tumour of the uterus, for menorrhagia and dysmenorrhœa. — Merck's Report, 1897. No definite results from extract.—B.M.J. ii./00,822.

### Ovaries.

Following the example of Spermin obtained from the testes, some experiments have been made with the ovaries. An extract has failed in the treatment of osteomalacia, but has proved of value in the cure of dysmenorrhœa and menorrhagia, and for climacteric ailments. Merck's Report, 1897, and P.J. ii./96,246.—B.M.J. ii./00,821.

Tablets, 5 grains (0·32 Gm.).

Chlorosis treated by Ovarin and ovary juice.— B.M.J.E. ii./96,43,75,92.

### Pancreatic Extract.

A liquid Extract of Pancreas has been similarly obtained by the d'Arsonval process of filtration under high pressure in contact with carbonic acid, and employed as a remedy in cases where pancreatic disease was diagnosed, and for some forms of diabetes. In England pancreatic feeding has been preferred.

Diabetes, one case improved, gained in weight 8 lb., and amount of sugar in urine much lessened, by five weeks' treatment.—B.M.J.E. ii./95,99; i./01,7.

No certain results in diabetes.—Pr. lxvi.417.

### Parotid Gland.

An extract obtained from the glands of sheep has been tried in several forms of ovarian disease. The dry extract of Merck has 1 part equal to 10 of gland. *Dose.*—5 grains three times daily.

**Tablets**, 5 grains (0·32 Gm.).

The anterior and posterior parts of the gland have different action: anterior part use still uncertain: posterior part slows the action of the heart and increases blood pressure.—B.M.J.E. i./98,104.

**Pituitary Gland.**

An extract has been obtained and applied to the cure of acromegaly: it seemed to relieve pain and to cause diuresis.—B.M.J.E. ii./95,91.

Epilepsy, has been tried without good effect, the number of fits increased and a curious state of mental excitement was noticed.—B.M.J.E. ii./96,55.

Mental cases showed only a slight physical improvement.—B.M.J. ii./00,819.

**Tablets**, 2 grains (0·13 Gm.).

**Prostate Gland.**

A dry extract has been given to patients suffering with enlargement of the prostate gland, but with very doubtful advantage. Of the German preparation, *dose*, 3 grains.—Merck's Report, 1897.

**Tablets**, 2½ grains (0·165 Gm.).

**Spermin.** *Syn.* ORCHIDIN, SEQUARDIN, TESTIN, TESTICULIN.

The use of an extract from the testicles of animals for treatment of human diseases was suggested by Brown-Séquard. D'Arsonval, in France, prepared by maceration, filtration, and sterilisation, a fluid which has given good results in the treatment of diabetes, loss of nerve-power, neuralgia and ataxy. This fluid seemed also to act as an emmenagogue, and even recalled the menses in women who had ceased to menstruate for three years. In the male it was asserted that injections of testicular fluid re-animated sexual power and cured impotence, especially when simply the result of senile decay.—B.M.J. ii./00,821.

**Liquor Testicularis, Orchitic Fluid.**

*Dose.*—15 minims hypodermically, or by mouth to 30 minims.

Prepared from the testes of animals (preferably guinea-pigs), by maceration with glycerin and subsequent filtration under pressure in contact with carbonic acid, by d'Arsonval's process.

Poehl finds that the active principle of testicle juice is a definite body, Spermin, which has the valuable property f exciting the process of oxidation; hence has good ffect in cases of anæmia, diabetes and uræmia.—B.M.J.E. ii./93,63.

**Tablets of Didymin** (Orchitic Substance), 5 grains (0·32 Gm.).

**Spermin** (Poehl) is sold in 2 per cent. solution in apsules containing about 1 Cc. for hypodermic injection.

**Spermin Essence** (Poehl) for internal use.

*Dose.*—20 to 30 drops twice daily.

The definite body, Spermin, may be obtained not only rom testicles, but also from the ovaries and pancreas, nd especially from the roes of fish at spawning time.

Hysteria not improved, only nervous debility following toxic disease.—B.M.J.E. ii./93,59.

Locomotor ataxy a case treated with no good result. —B.M.J. ii./93,1425.

Twelve of 14 cases of locomotor ataxy greatly improved by testicle fluid.—Med. Ann. 1894,409.

Failed to relieve optic neuritis.—B.M.J.E. i./94,10.

Recommended for cholera.—B.M.J.E. ii./94,56.

Cure of leucodermic skin disease.—B.M.J.E. ii./93,95.

Orchitic extract as a restorative.—B.M.J. i./95,1261.

Spermin valuable as a cardiac tonic.—B.M.J.E. ii./96,4.

Spermin relieved malignant syphilis.—L. ii./96,169.

Orchitic extract fails to improve sexual power.—ii./00,1853.

## Spleen.

A special use of the spleen of healthy animals as a ood has been tried in cases of lymphadenoma. A case n a boy of twelve years his condition was ameliorated. —B.M.J. ii./93,889.

It is alleged that Splenic principles are blood forming nd alterative, and their use has been suggested in ases of anæmia, chlorosis, rickets and phthisis.

Improvement has followed the use of spleen and its xtracts in cases of Graves disease, but such extracts do ometimes give rise to nausea and indigestion, and, if iven hypodermically, may produce local inflammation nd abscesses.—American Jour. Med. Science, 1897,511.

Spleen extract aided digestion and nutrition, increased he cutaneous circulation, stimulated glandular action, nd improved the mental condition of insane persons.

Bullock's spleen was used; an extract was made, of which one drachm represented one drachm of fresh spleen; dose beginning at 1 to 3 drachms, and increased to an ounce.—M.C., March 1898,439.

Clinical study on spleen extract.—B.M.J. ii./98.684.

Hastens recovery in Typhoid.—B.M.J.E. i./00.48.

**Tablets of Spleen Substance**, 5 grains (0·32 Gm.).

**Supra-renal Capsule Extract.**

Prepared like the extracts of the spleen and spinal cord. Has been used with good results in the treatment of Addison's disease, and certain forms of nervous debility.

**Tablets** 5 grains (0·32 Gm.).

German chemists first isolated a principle which raised the animal blood pressure, and have since obtained a second with the opposite action.—Semaine Médicale, 1897,70,209.

An editorial on supra-renal therapy.—L. ii./95.1448.

Cases of Addison's disease improved under this treatment.—L. ii./95.1226; B.M.J. i./96.1088; B.M.J.E. ii./96,68; i./98,43; B.M.J. i./98.1388.

Cases of Addison's disease treated by extract, fatal result.—B.M.J. i./96.150; B.M.J.E. i./97.23; B.M.J. i./97,67; B.M.J.E. i./99,35.

One form of extract has an hæmostatic action.—Merck's Report, 1897; B.M.J.E. i./99.467; E. ii./99,3.

A drop of extract assists action of a local anæsthetic by causing anæmia, for eye surgery.—B.M.J.E. ii./96.84.

Experiments on frogs.—B.M.J.E. i./98.96.

Its action on the circulation.—B.M.J.E. ii./98.24.

Relieves hay fever.—B.M.J.E. ii./98.63; i./01.32.

Local application of an aqueous extract to relieve acutely congested spots of nose and throat.—B.M.J.E. i./00,44.

An ideal hæmostatic for gastric, intestinal and renal cases.—B.M.J.E. ii./00,3; B.M.J. ii./00,1307.

Coryza, local application relieved.—B.M.J.E. i./00,64.

Hay fever cured by 6 to 12 per cent. solution of saccharated extract applied, or tablet every 2 hours, or less frequently.—B.M.J.E. i./00.103.

Secondary hæmorrhage may occur after use as a hæmostatic.—B.M.J.E. i./00,95.

Worthy of a trial in acute mania.—B.M.J. ii./00,820.

No control over bleeding of hæmophilia.—B.M.J. ii./00,1307. Local application checked epistaxis in a case of hæmophilia.—B.M.J. i./01,1009.

Pain of cancer, teeth and laryngeal tubercle relieved y local application.—L. i./01,619; P.J. i./01,391.

Strengthens uterine contractions and cardiac action. —B.M.J. i./01,1009.

**Adrenalin.**

An active principle obtained from Supra-renal Capsules, in grey crystals, is prepared for use 1 in 000 of normal saline solution, with ½ per cent. of Chloretone as an anaesthetic preservative.—P.J. i./01,361.

**Epinephrin.**

A grey powder, having the characters of an alkaloid, is so claimed to be the active ingredient of the supra-renal psules, and extracts obtained from them by John Abel, Baltimore, show a marked effect upon blood pressure, nd locally applied relieve congestion of mucous surfaces. -L. ii./99,1313; B. and C.D. i./99,661; ii./99,334.

**Thymus Gland.**

This organ has also been used to procure an Extract, d so-called Thymus cultures have been used as jections. The treatment by Thymus gland does not pear to cause pyrexia, or any form of constitutional sturbance. Immunity from typhoid said to follow their e.—B.M.J.E. ii./93,95.

ablets, 5 grains (03·2 Gm.).

The dried extract has been given to improve states of ective nutrition in childhood. The raw gland may be en in doses of thirty grains increased to an ounce. ur atrophic children obtained much improvement by s treatment with a thymus extract.—Jour. de Pharm. de Chimie, 1897,463.

Negative result of its use in anthrax.—B.M.J.E. 4,40.

Good effect in cases of exophthalmic goitre.—B.M.J. 95,47; i./96,656; L. i./96,571; ii./96,173,569. Four es, no very marked effect.—B.M.J. i./99,12.

Relieves urticaria and checks bleeding.—L. i./96,153.

Haemostatic action observed.—P.J. 1895,959.

Distinct physical good effects, but no mental improve- nt resulted in three mental cases.—B.M.J. ii./00,819.

cleohiston.—An albuminoid body obtained from the thymus of the calf; was considered to be the active principle of the leucocytes; this has been tried as an immunising agent of a non-bacterial nature.—Merck's Report, 1896,105.

**Thyroid Gland.**

This gland, and preparations made from it, have been employed for relieving myxœdema, cretinism, goître, exophthalmic goître, lupus, psoriasis, and chronic eczema. The methods applied are (1) by feeding with the glands; (2), by grafting; (3), by the exhibition of the official **Thyroid Solution** by the mouth or hypodermically; (4), by **Dry Thyroid**, in powders, cachets, or tablets. Success has been most notable in cases of myxœdema and goitre; insane persons have also improved under its use.

Bromine and Iodine have both been found by analysis in the Thyroid glands of the sheep.—P.J. ii./98,482,546; ii./99,235; C.D. i./00 29.

It is also stated, by Gautier, that Arsenic is a constituent of the nucleins of the gland.—P.J. i./00,41.

**Liquor Thyroidei.** THYROID SOLUTION (*Off.*).

*Dose.*—5 to 15 minims (0·3 to 0·9 Cc.), freshly prepared.

To each fresh, healthy sheep's thyroid gland, consisting of two lobes, sliced and bruised, add Glycerin 2 Cc. and Phenol Solution (0·5 per cent.) in Distilled Water; macerate 24 hours in a flask plugged with cotton wool, then strain through linen with strong pressure and add more Phenol solution to 6 Cc. Pour into sterilised bottles.

**Thyroideum Siccum.** DRY THYROID (*Off.*).

*Dose.*—3 to 10 grains (0·2 to 0·65 Gm.), in cachets.

**Tablets,** 1½ and 5 grains (0·1 and 0·32 Gm.).

The healthy glands are minced, dried, powdered, and exhausted of fat by means of petroleum spirit; should be carefully kept dry.

**Iodothyrin.**—*Syn.* THYRO-IODIN.

Prepared by extraction of pancreatised gland by means of petroleum ether, solution in soda, and precipitation by sulphuric acid; adjusted in strength to contain 0·03% of Iodine.

**Tablets,** 5 grains (0·32 Gm.) each, about equivalent to 5 grains of the fresh gland.—B.M.J.E. i./96,79; ii./96 59,96; L.i./96,592,666; P.J. i./96,161; L. i./98,1438.

Gout and myxœdema can be cured by it.—B.M.J. ii./96,1541. Researches.—Pr. lxvi,402.

The results of its use during 1897 have not verified nor extended the claims made for this remedy; it ha the toxic properties of iodine, and has but slight remedial action on hypertrophy of the thyroid gland.—Merck's Report, 1897.

**Thyro-glandin.** A thyroid extract prepared for obesity and myxœdema.

*Dose.*—1 to 5 grains (0·065 to 0·32 Gm.).

Method of extraction.—P.J. ii./98,166; B.M.J. ii./98, 79; Jour. Phys. xx.,474.

## *References to Thyroid Treatment.*

Victor Horsley's notes on grafting the thyroid gland.—B.M.J. i./90,287; ii./90,201.

Great improvement of a case of myxœdema by thyroid rafting.—B.M.J. ii./90,525.

Murray on the injection of thyroid extract.—B.M.J. i./91,796; ii./92,449; L. ii./92,964.

Fenwick notes a diuretic action.—B.M.J. ii./91,798.

Cases of myxœdema improved.—B.M.J. i./93,8,10; /94.12,1361; M.C. Dec. 1892,188; L. ii./93,1388; ./94.434,1486; B.M.J.E. i./94,507; B.M.J. i./96, 34; L. i./96,424,1446; B.M.J. i./99,650; L. ii./98,1247.

Cases of psoriasis cured.—B.M.J. ii./93,763,933, 424; i./94,13,186,617; i./95,697.

Summary of results of use in the insane, satisfactory. -L. ii./94,846.

Of great service in malignant syphilis.—B.M.J. ii./94, 2.

For use in obesity.—B.M.J. ii./94,42; i./01,389. s value denied.—B.M.J. ii./94,157.

Graves' disease improved.—B.M.J.E. ii./94,80.

Cretinism, useful in.—L. ii./93.1113,1116,1117; .M.J. ii./94,1112; i./96,1551; L. i./96,204; L. ii./97, 49,854,866; B.M.J. i./99,651.

Successful use in pityriasis rubra, ichthyosis, and yxœdema.—B.M.J. i./95,695,696,697.

Warnings against use without medical advice.—M.J.E ii./95,68.

Tetany treated by thyroid extract.—B.M.J. i./95, 96; ii./95,75.

Recommended for alopecia.—B.M.J. ii./95,77; P.J. '95,215.

An editorial on thyroid treatment.—L. ii./95,855.

Mania follows its use for relief of obesity.—L. i./96, 2.

Cases of lupus improved.—B.M.J. i./96,725,813,945 B.M.J. ii./96,1200 ; L. ii./98,1202.

Good results in leprosy at Suakin from thyroid fee ing.—L. ii./96,1221.

Acromegaly improved.—B.M.J.E. i./96,51 ; L. ii./9 614.

In some patients the thyroid treatment has set u glycosuria.—Berlin. Klin. Woch., 1897.518.

For ichthyosis is worthy of a trial.—B.M.J. ii./97,133

Tends to assist the development of backward childre —B.M.J. i./98,618.

Carcinomatous nodules succeeding cancer of brea removed by operation, disappeared under 15 grains thyroid extract daily.—L. i./98,1460.—Pr. lxvi.485.

Cancer of the breast treated by oophorectomy a thyroid extract.—L. i./98,1612.

The pharmacology of the thyroid.—B.M.J. ii./98,14

Warning against the promiscuous use of thyr preparations.—L. i./99,197.

Résumé of effects of thyroid preparations used 130 cases of mental disease.—B.M.J. ii./00,815.

General psoriasis cured by capsules.—P.J. ii./00,54

Apathy may follow use of thyroidei.—B.M ii./00,582.

Hæmophilia controlled by Liquor Thyroidei.—B.M ii./00,1375.

Case of melancholic stupor recovered.—B.M i./01,768.

Résumé of curative value in goitre, myxœde cretinism and psoriasis.—Pr. lxvi,389.

**Uterus.**

An abstract made from this organ gave negat results.—B.M.J. ii./00,822.

Puerperal mania was unaffected by 45 grains daily Therap. 1900,253.

**Tablets of Uterine Substance,** 5 grains (0·32 Gr

# ANALYTICAL MEMORANDA.

## I.—CHEMICAL TESTS AND MICROSCOPIC METHODS FOR THE EXAMINATION OF URINE, BLOOD, &c.

**Acetone** in urine (Lieben). Distil the sample and make distillate alkaline with potash, add a little iodine solution. The formation of iodoform, yellow turbidity with odour, indicates presence of acetone.

### Albumin Tests.

**Acetic Acid with heat.** Fill a test tube about half full with filtered urine, slightly acidify with dilute acetic acid. Boil the upper portion. Albumin, if present, will precipitate in the form of a cloud which will be insoluble after cooling on further addition of acetic or nitric acids in moderate amount.

**Asaprol as a Test,** *v.p.*340.

**Esbach's Picric Acid Solution.**

Picric Acid 10 Gm., Citric Acid 20 Gm., dissolve in about 900 Cc. boiling water, cool and add water to 1,000 Cc. This reagent is used for the approximate determination of albumin by an Esbach tube about six inches long, and 0·6 inch in diameter, the graduations of which are purely empirical, the results of experiment, and indicate approximately 0·1 up to 0·7 per cent. albumin.

For exact determinations, albumin should be precipitated by some suitable reagent, itself nitrogen-free, *e.g.* carbolic acid or tannin and the washed precipitate, dried and weighed, or better the nitrogen contained in it should be estimated by a Kjeldahl analysis, the amount of nitrogen found being multiplied by the factor 6·3 to obtain the amount of proteids.

**Ferrocyanic Acid Test Pellets.**

Potassium Ferrocyanide and Acetic or Citric Acid mixed in solution set free Hydroferrocyanic Acid On the addition of such a solution to urine, it gives, without heat even, a distinct opalescence if a small, and a dense white precipitate if a large, quantity of albumin be present. Pellets are made of citric acid and also of potassium ferrocyanide to be portable. In about a drachm of urine, in a test tube, an acid pellet is first dissolved, next a ferrocyanide pellet is added and allowed to dissolve (without heat); if albumin is present a precipitate will immediately appear. This test does not precipitate peptones.—L.i./82,823; i./83,191; B.M.J. i./83,308.

**Heller's Nitric Acid Test.**

Nitric Acid is placed in a test tube and the filtered urine, or diluted filtered urine, carefully 'layered' on to it. A white ring at the juncture of the liquids indicates presence of albumin; confirm by another reliable test.

**Iodomercurate of Potassium Solution,** for volumetric estimation of albumin.

| | |
|---|---|
| Potassium Iodide ... ... ... | 3·22 Gm. |
| Mercuric Chloride ... ... ... | 1·35 Gm. |
| Distilled water ... ... ... | to 100 Cc. |

Confirmatory Solution.

| | |
|---|---|
| Mercuric Chloride ... ... ... | 1 Gm. |
| Distilled water ... ... ... | 100 Cc. |

To 10 Cc. of urine add two drops of acetic acid, and the volumetric solution, drop by drop, stirring after each addition, counting the drops, until the urine is apparently unaffected by the test; now, after adding each drop of the test, put a drop of the urine being tested on a white porcelain dish and watch if a yellowish red colour appears on adding a minute drop of the Confirmatory Solution: as soon as it does, the albumin in the urine is exhausted. Each drop of test used (*minus* 3 for excess) represents 0·5 Gm. of albumin per litre in the urine under examination; should be added from a pipette, delivering drops 5 centigrammes each.—L.ii./82,614; L.i./83,139.

**Millon's Reagent.—Nitroso-Nitrate of Mercury.** Mercury 10, Nitric Acid (Sp. Gr. 1·185) 25 by weight, Water 25. Dissolve in a flask at lukewarm heat, shaking often, and add to a solution formed by dissolving Mercury 10, in Nitric Acid (Sp. Gr. 1·25 to 1·3) 22 by weight without artificial heat. With albumin or urea this gives a yellow, then red coloration on heating.

**Picric Acid Solution,** Saturated. Esbach's Solution, *v.p.*525

The solution is carefully poured upon the urine contained in a test tube, and when this is held aslant an opalescent coagulated albuminous precipitat forms immediately between the yellow test solution at the top and the urine below, if albumin be present. It has also been suggested as a test for sugar n urine, as solution of glucose, if boiled with picric acid nd solution of potash, reduces the yellow picric acid to deep ed picramic acid, forming potassium picramate, the lepth of colour depending on the amount of sugar present. This may be estimated approximately by comparison with a solution of ferric acetate of known trength, but accuracy is doubtful.—L. ii./82,737,869, 898,959,1002,1053,1095; L. i./83,161,454; B.M.J. ./83,505; B.M.J. ii./84,690,1314; L. ii./84,1083; ./94,1588; i./95,314; ii./95,1324; i./96,476.

The administration of alkaloids may cause urine to give precipitate with picric acid, but this is redissolved on eating to the boiling point.—B.M.J. i./84,103,219.

**Spiegler's Test for Albumin.**

Corrosive Sublimate 8, Tartaric Acid 4, Distilled Water 200, Glycerin 20. Add a few drops of strong cetic acid to the urine and filter to remove mucin. hen carefully pour on to the reagent. Albumin is hown by a white zone.—B.M.J.E. i./93,25; Pr. lii.132.

Globulin and hemi-albumose give a similar reaction, ut peptones not.—Allen.

**alicyl-sulphonic Acid.**

In colourless crystals, prepared by action of sulphuric nhydride on salicylic acid. Soluble in water and cohol.

Is an extremely precise, reliable, and quick test, iving a dense white precipitate with all proteids.

Albumin, globulin, myosin, etc., coagulate on heating.

Albumoses dissolve on heating, and reappear on cooling.

Peptones are not precipitated, except in solutions turated with ammonium sulphate.—B.M.J. i./91,837; 92,115; Th. Gaz. 1891,401.

**ichloracetic Acid.** A saturated solution poured on albuminous urine causes a precipitation like nitric acid, without coloration, does not precipitate peptones.—B.M.J. ii./89, 1114; i./90,363,681; L. i./90,106.

It is better to drop a *crystal* into *diluted* urine, or ates may give the reaction, though zone of turbidity narrower, and forms more slowly.—L. i./91,687.

### RÉSUMÉ OF ALBUMIN TESTS.

**Acetic Acid** is affected by nucleo-proteids as well as by Albumin.

**Acetic Acid and Salt.**—Add ⅛ or up to ⅕ volume saturated salt solution to the urine. Mix thoroughly and add Acetic Acid, *q.s.* Does not precipitate nucleo-proteids.

**Acetic Acid with Heat.**—Nucleo-proteids may interfere.

**Carbolic Acid** (saturated solution in absolute alcohol) recommended.—L. i./99,1221.

Not so delicate as Salicyl-sulphonic Acid, but the latter (see below) may be too delicate for clinical work. Further, the milkiness produced by the Phenol emulsifying with the water a drawback.—L. i./99,1393.

Said to be as delicate as Nitric Acid.—L. i./99,1456.

Resembles the older tests of Tidy and Méhu.—L. i./99,1515.

**Heat.**—Delicacy depends on reaction of urine. If alkaline, test useless. Earthy phosphates may be precipitated from an alkaline or a feebly acid urine: these dissolve in a small quantity of Acetic or mineral acid.

**Heat and Nitric Acid.**—Bring urine to boiling point and add not more than ⅓ volume of Nitric Acid. Not satisfactory.

**Nitric Acid. Heller.**—Not so delicate as the **heat and Acetic Acid** or the **heat and Nitric Acid**, but will show 1 in 12,000 at once. Bilious urines may produce play of colours characteristic of Gmelin's test. Nucleo-proteids may hinder this test, but these are precipitated by vegetable acids.

**Millard's Reagent.**—(Phenol, Acetic Acid and Caustic Potash.) Interfered with by albumoses, nucleo-proteids, etc.

**Picric Acid**, alone or with **Acetic or Citric Acids** (Esbach). Not recommended unless accompanied by other confirmatory tests.

**Potassium Ferrocyanide and Acetic Acid.**—More delicate than Heller's, and best applied as a ring test. 'Layer' the urine on to a mixture of 20 or 30 drops of Acetic Acid with 2 or 3 times volume of saturated Potassium Ferrocyanide solution. A white ring indicates presence of albumin. By this manner of proceeding the precipitation of nucleo-proteids is avoided.

**Roberts' Acidulated Brine Test** is only partly successful.

**Salicyl-sulphonic Acid.**—Strongly recommended. Not affected by phosphates, bile, urates or alkaloids. Norma urine may, however, produce a faint precipitate due to nucleo-proteids.

**Spiegler's Reagent.**—(Corrosive Sublimate, Alcoho and Cane Sugar or Glycerin). Although very delicate fo albumin, is affected by nucleo-proteids, etc.

**Tanret's Reagent** (Potassio-Mercuric Iodide and Acetic Acid) is also affected by nucleo-proteids.

**Trichloracetic Acid.**—Has the objections of precipitating Uric Acid, and that nucleo-proteids may give an opalescence. It is not as delicate as SALICYL-SULPHONIC ACID, which is, in conclusion, preferred. The cold NITRIC ACID test to confirm, employed by diluting the urine, secondary ring caused by nucleo-proteids may be produced.—L. i./99,1085.

## Bile in Urine.

Fuming Nitric Acid produces a bluish-green ring and play of colours.

Peptone Test..—Peptone, in powder 30, Salicylic Acid 4, Acetic Acid 30, Distilled Water 3,500.

Dissolve and filter till bright. On adding 20 minims of urine containing bile salts to 60 minims of this solution, an opalescence appears in proportion to the amount of bile constituents; it dissolves completely on adding acetic or citric acid, and diminishes, but does not disappear, on boiling.—L. i./85,741.

## Blood Corpuscles

may be recognised microscopically, blood **Pigments** micro-spectroscopically.

**Blood in Urine**.—Heller's test consists in heating the specimen with strong potash or soda. If present, a colour described as bottle-green is produced, and earthy phosphates coloured brownish-red by blood are precipitated.

Ozonic Ether and Guaiacum Test for,—add a drop or two of fresh Tincture of Guaiacum—Guaiacum Resin 1, in Alcohol (90 per cent.) *q.s* to 5—to a small quantity of the urine and shake, 'layer' Ozonic Ether on to the mixture. A blue colour at once, or on standing, indicates presence of blood—Iodine in the urine also gives this colour (*e.g.*, if patient has been treated with iodides).

Old French oil of turpentine may be substituted for ozonic ether.

**Blood, Estimation of Hæmoglobin.**—Sir Wm. R. Gowers' apparatus consists of two tubes, flattened or round, one closed, containing glycerin jelly coloured with picro-carmin—the standard equal to the colour of a dilution of average normal blood one hundred times (20 cmm. in 2 Cc.), and the other, graduated in 100 degrees = Cc., for the dilution of the sample of blood with distilled water. The outfit further includes a pipette, pricker, india-rubber stand, &c.

The lobe of the ear or the finger is pricked and 20 cmm. of blood are drawn up into the pipette, injected into the graduated tube, which should at the time contain a few drops of water to prevent possible coagulation and facilitate mixture. Water is then added sufficient to produce a tint the same as the standard, the two being frequently compared during the process. The degrees of dilution needed indicate the percentage amount of hæmoglobin. For example, 20 cmm. of blood from an anæmic patient giving the standard tint at 30 degrees of dilution would contain only 30 per cent. of the normal quantity of hæmoglobin.

**Haldane's** Hæmoglobinometer is similar to that of Gowers, but the standard tube is filled with a 1 per cent. solution of blood standardised by the ferricyanide method to an oxygen capacity of 18·5 per cent., and saturated with $CO$ in the absence of air. This solution is permanent and can be employed with any kind of light (Hawksley).

Other Hæmoglobinometers are those of Oliver, Fleischl:—

**Oliver's** Hæmoglobinometer modifies the colorimetric principle of determination of hæmoglobin by a double transmission of light instead of a single one, by employing a standard white background, the standard for comparison consists of a series of discs of definite gradations, and the observations are made through a tube so arranged as to shut off all side-light. **Solly's** instrument is an improvement of Oliver's, but the same in principle. The whole is contained in a box or camera which contains a lamp and much larger type colour slides with finer gradations of tint. The test is made by viewing the sample of blood and the types through a tube and eyepiece. The light is artificial and reflected. **Fleischl's** instrument consists of a stand and movable horizontal stage which carries a prism of hæmoglobin-tinted glass and a scale. On the stage is a cylindrical cell divided parallel to the prism, one half being over the prism, the other over an adjustable mirror which is beneath the scale. To make a determination the half cell over the prism is filled with water and the other half with the solution of blood in water. The prism is moved until the colour of the solution of specimen in the one cell corresponds to the colour of prism as seen through the other. The scale gives the percentage of hæmoglobin. It has been modified by Meischer, by whom a bulbous pipette is used to measure a given quantity of blood and diluent. This contains a glass bead, and serves as a mixing vessel.

**Blood, Number of Corpuscles**.—One cubic millimeter contains normally about 5,000,000 red corpuscles and the proportion of leucocytes to these is normally 1 to 300 or 400.

The hæmacytometers chiefly employed are Gowers' modification of Hayem's, and that of Thoma-Zeiss.

In the **Gowers' Instrument** the cell is $\frac{1}{5}$ mm. deep, and each side of a square is $\frac{1}{10}$ mm., hence the volume of the small square is $\frac{1}{500}$ cmm. This instrument contains, in addition to the cell, a small pipette which, when filled to the mark on its stem, holds exactly 995 cmm., a capillary tube marked to contain exactly 5 cmm., a glass stirrer, a lancet needle, &c. The dilution employed is 1 to 200. The number of corpuscles in 10 squares is counted, and this multiplied by 10,000 gives the number in a cubic millimeter. The above dilution and squares are so arranged that normal blood presents 50 corpuscles per square, or 100 in 2 squares, and by counting 10 squares so as to get the average for two, the *percentage* of corpuscles to that of health is evident, and may be compared with the percentage of hæmoglobin as ascertained by Sir Wm. R. Gowers' hæmoglobinometer, see p. 529.

If, for instance, the blood contain 80 per cent. of corpuscles and only 40 per cent. hæmoglobin, the value of each corpuscle is represented by the fraction ½. Sometimes in pernicious anæmia the corpuscles sink below the amount of hæmoglobin, and there may be 30 per cent. of corpuscles and 40 per cent. of hæmoglobin, in which case the value of the corpuscle is $\frac{4}{3}$. The corpuscles having settled, and the percentage ascertained, the objective may be raised so that the corpuscles are somewhat out of focus, the **leucocytes** then appear as bright points, in consequence of their greater refraction, and their number may be counted. Sir Wm. R. Gowers prefers this method to that of staining (see below).

The **Thoma-Zeiss** instrument consists of micrometer slide divided into 16 squares, each square again divided into 16 smaller squares. It has two pipettes, one for diluting the blood 1 to 100 and 1 to 200 for counting the red corpuscles, the other is intended for estimation of the leucocytes, and dilutes the blood 10 or 20 times. The number of red corpuscles seen in 4, 6, or if greater accuracy is required, 16 (larger) squares, *i.e.*, in 64, 96 or 256 smaller squares, is counted. To ascertain the **number of Red Corpuscles** in 1 cmm. of blood, knowing the volume of the cube standing on each small square to be $\frac{1}{4000}$ cmm., *multiply the total number of red corpuscles counted by 4,000 times the number of times of dilution of the blood and divide the result by the number of small squares in which red corpuscles have been counted.* It is always desirable to have an assistant to note the numbers observed, and to count the corpuscles touching and overlapping the two adjacent boundary lines on the left upper corners of the squares, but those on or overlapping the other two sides are excluded to compensate.

The normal dilution is 1 to 200; in polycythæmia 1 to 400; and in excessive anæmia 1 to 100 may be used. 5 or 6 corpuscles per square are a convenient number for counting.

The fluid used for diluting in both the above instruments is **Sir Wm. R. Gowers' Hæmacytometer Solution**: Sodium Sulphate 104 grains, Acetic Acid 1 drachm, Distilled Water 4 ounces. Filter.

**The number of Leucocytes** may be estimated in a similar manner, but in this case it is desirable to stain them before counting by using Gowers diluting fluid, with an appreciable addition of Löffler's Methylene Blue, or by Toison's Solution (Dissolve Methyl Violet 5B 0·25 Gm. in a mixture of Glycerin 30 Cc. and Water 80 Cc. Dissolve separately Sodium Sulphate 8 Gm. with Sodium Chloride 1 Gm. in Water 80 Cc. Mix and filter.) Leucocytes stained violet, red corpuscles greenish. For accuracy count as many squares as possible.

Another method is to use an aqueous [illegible] per cent. acetic acid solution as diluent, in this the red corpuscles become invisible whilst the leucocytes remain visible (Thoma-Zeiss).

The Thoma-Zeiss cell is 0·1 mm. deep, and each side of a small square is $\frac{1}{20}$ mm., hence the above figure $\frac{1}{4000}$ cmm. is the volume of each small square.

**Cleaning of Pipettes.** Hahn recommends as a means of removing coagulated fibrin, artificial digestion in a solution of about 0·1 per cent. pepsin in 1 per cent. hydrochloric acid, at ordinary temperature. When the fibrin is dissolved, rinse with distilled water, alcohol and ether. But such cleaning ought to be needless if the pipettes are placed in water immediately after use, and a little drawn up into them.

**Blood Staining.** Smear clean coverslips with a small drop of blood to be examined. Fix by heat, or by immersing half an hour in a mixture of equal volumes of alcohol and ether.

Stain by A. (i.) Five per cent. Aqueous Eosin 5 to 10 mins., then

Stain by A. (ii.) Loeffler's Alkaline Methylene Blue for a few seconds.
or B. By the Ehrlich - Biondi - Heidenhain Stain (Solution of the Ehrlich-Biondi-Heidenhain Powder, 0·4 per cent. 100 Cc., Acid Fuchsin Solution 0·5 per cent., 7 Cc. Mix.).

## Glucose Tests.

**Fehling's Solution**, Solution of Potassio-Cupric Tartrate (*Off.*).

No. 1. Copper Sulphate 34·64, Sulphuric Acid 0·5, Distilled Water to 500.

No. 2. Sodium Hydroxide 77, Sodium Potassium Tartrate 176, Distilled Water to 500.

Mix equal volumes when required. Of this, 10 Cc. will be decolorised and reduced by 0·05 Gm. (or 53 minims = $\frac{1}{4}$ grain) of glucose or diabetic sugar in solution, with precipitation of yellowish red cuprous oxide, when the two are boiled together. No. 2 solution should not be kept in a very cold place, else it will crystallise. By keeping the copper solution separate from the alkaline solution the test is prevented from becoming erroneously sensitive.*

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***Ammoniated Cupric Test** (Pavy).

Tartarated Soda, and Caustic Potash, of each 178 grains.
Distilled water ... ... ... ... ... *q.s.*
Dissolve and add in aqueous solution
Copper Sulphate ... ... ... ... 36½ grains.
When cold add
Strong Solution of Ammonia, sp. gr. 0·88 ... 6 ounces.
Distilled Water... ... ... ... to 1 pint.

This solution is not hyper sensitive, ammonia is a solvent for the cuprous oxide, yet it does not interfere with the reduction of the oxide in sugar testing. 10 Cc. of the solution further diluted are kept boiling in a flask, air being excluded, while the urine *q.s.* is added to discharge the colour; a table shows the amount per 1,000 it will contain.—L. i ,84.376.

**Fehling's Test**, modified by Schmiedeberg. Said to be stable, simple, rapid and accurate.

Copper Sulphate 4·15 grammes, Pure Mannite 10·6 grammes, Caustic Potash 20·4 grammes, Strong Solution of Ammonia (·88) 300 Cc., Pure Glycerin 50 Cc., Distilled Water *q.s.* to 1 litre. Dissolve the copper sulphate in part of the water, and add the glycerin and mannite. Dissolve the caustic potash separately, mix the solutions, and when cold add the ammonia and water *q.s.* to 1000 Cc. Filter. 25 Cc. will be reduced by exactly ¼ grain sugar.

Method. Into a glass flask pour 25 Cc. of the test, and 50 Cc. of water, and heat to boiling point; as it begins to bubble lightly drop in the saccharine urine from a pipette until

**Cupric Pellets,**—the salts of Fehling's solution are prepared compressed into tablets.

**Glass Capsules,** containing about 1 Cc. of Fehling's Solution, are also prepared.—L. ii./80,192.

Uroglycuronic acid, found in urine after administra-:ion of morphine, chloral, and chloroform, reduces Fehling's solution. Care necessary in determining presence of sugar.—B.M.J. ii./88,691; i./90,169; P.J. 1890,606.

**Nitropropiol. Sodium Orthonitrophenyl-propiolate.**

Has long been used for detection of sugar in diabetic urine. Owing to reduction, indigo blue colour is produced, or indigo-blue itself precipitated. Recently ablets prepared.—C.D. i./00,29; L. i./00,171,882,1321; i./01,1028.

**Phenyl-hydrazine.**

A colourless oily liquid, solidifying to tabular crystals, oluble in alcohol, chloroform, benzol, and ether, very lightly in water.

Use as a test for sugar in urine. Precipitate the rine completely with lead acetate and filter; alkalinize he filtrate with potash, add a solution of phenyl-hydrane and boil. If sugar be present the liquid has an ange colour, and excess of acetic acid causes an orange ecipitate.—L. i./93,374,496; B.M.J. i./93,357; L. /95,130.

**Phenyl-hydrazine Hydrochloride** is also used as a test for sugar. It is in colourless, shining, crystalline scales; and should be free from azo-compounds. A small quantity is warmed with twice its weight of sodium acetate in solution, an equal volume of the suspected solution added, and boiled

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e blue colour disappears. The quantity used contains actly ¼ grain.—Pr. xliv. 378.

**Fehling's Test.**—Allen's modification for small quanies of sugar in urine. Heat 8 Cc. of the urine to boiling int and add 5 Cc. of the copper solution, cool and add 2 Cc. urated solution of sodium acetate, slightly acidified with etic acid, to complete precipitation of uric acid, phosphates, l xanthine. Filter, add 5 Cc. of the alkaline solution, l boil for a few seconds. If more than 0·25 per cent. sugar be present, cuprous oxide is precipitated before boil- point is reached, but if less than this proportion, it is osited during cooling.—Analyst, xix.178; P.J. ii./95,307.

for 20 minutes. On cooling, yellow crystals of phenyl-glucosazine are deposited if sugar be present.—B.M.J. i./87,469; L. ii./90.178. Safranin (1 in 1000), recommended as a non-poisonous antiseptic.—P.J. 1889,608. Notes on Phenyl-hydrazine test.—B.M.J. [illegible]

## Safranine.

This coal-tar colour is produced by the action of nitrous acid on ortho-toluidine and subsequent oxidation. In commerce it consists principally of hydrochloride, in reddish-brown crystals, very soluble in water and alcohol.

Solution 1 in 1,000 is used as a test for sugar. One volume, with one of urine and one of liquor potassæ is heated to boiling, avoiding agitation. If the urine contain sugar to the extent of 0·1 per cent. the liquid will become decolorised. Each additional volume of the safranine solution that may be decolorised represents roughly 0·1 per cent. of sugar.—L. i./95,314.

Sir Wm. R. Gowers' rule for roughly estimating glucose:—

Dilute with an equal volume of Liquor Potassæ: this makes all urine pale enough to prevent important error in such a rough test. Boil the upper half well but not too long—a lemon tint corresponds to about 5 grains per fluid ounce, a pale sherry to 10 grains, a dark sherry to 15 grains, and port wine tint to 20 grains and upwards.

## Urea in Urine, Estimation of.

Average 2·5 to 3 per cent. The majority of method are based on the decomposition of Urea into nitrogen carbon dioxide, and water, when treated with sodiun hypobromite. The carbon dioxide is absorbed by th excess of alkali present, and the nitrogen can b measured, from which, on reference to tables the percent can be found: theoretically 1 C.c. of nitrogen at 0° C = 0·0027 Gm. approximately of Urea. By the process about 8 per cent. of the total nitrogen is suppressed, bu the increase in volume of the gas due to the room tem perature (taken as 18° C.) and the vapour tension of th gas being measured moist has been found to almos exactly compensate for this loss in practice.

A Portable **Urine Test Case** is arranged, containing the apparatus and reagents for the qualitati and approximate quantitative examination of urine f lbumin, glucose and urea.—B.M.J. ii '99,1556; L. ii '99,1095; P.J. ii '99,314c.

## Uric Acid in Urine, Estimation of.

(Mean Content 0·05 to 0·06 per cent.) **Hopkins' Method.** To 100 Cc. of sample add about 30 Gm. Ammonium Chloride in owder, dissolve as completely as possible, or a small quantity nay remain undissolved, add a little ammonia to neutralise nd allow to stand 10 minutes. Filter off the precipitated cid Ammonium Urate, wash with saturated Ammonium ulphate solution, and rinse off the precipitate from the ilter with water to 100 Cc. Add 20 Cc. Concentrated Sulhuric Acid to raise temperature of the liquid to about 60° C., r, if necessary, warm to that temp. Titrate with N [illegible] otassium Permanganate, taking as end reaction the point at hich the Permanganate ceases to be instantly decolorised. ach Cc. of the Permanganate Solution = 0·00375 Gm. Uric Acid.

The **Gowland-Hopkins' method** is as above to *, then roceed as follows.—Wash off the precipitate into a small eaker with a jet of hot water, add a little hydrochloric acid, nd heat to just boiling. Allow to stand two hours in the cold. ollect the separated Uric Acid measuring the filtrate at the ame time, for which an allowance of 1 mg. must be added on o the final result for every 15 Cc.; it need not exceed 20 to 0 Cc. Wash the uric acid crystals with a little distilled ater, rinse off the filter with hot water, warm with odium carbonate till dissolved and make up with water to 00 Cc. Add 20 Cc. Sulphuric Acid and titrate with Permanganate as above, adding slowly towards the end of e reaction, the finish being the first appearance of a pink olour which is permanent for an appreciable interval. reviously the disappearance of the colour is instantaneous. P.J. i. '99,266.

**Uric Acid Outfits** are arranged containing Glass ubes of Concentrated Permanganate Solution to produce xtemporaneously 100 Cc. of N [illegible] Potassium Permanganate, d other solutions and apparatus necessary for the entire timation either by the Hopkins or the Gowland-Hopkins' ethod.

## WATER ANALYSIS NOTES.

W[illegible] atmosphere ammonia-free. The sample of [illegible] should be received in a 'chemically clean' Winchester art stoppered bottle, and dated. Note **Physical** haracters, smell, taste, sediment, colour in a 2 feet [illegible]

**Total Solids** by evaporating the 'miniature gallon,' Cc., in a platinum capsule on water bath.

**Free and Albuminoid Ammonia.** Prepare some ter NH₃ free, by distilling a good tap water, rejecting first portion until on Nesslerising, distillate is NH₃ free. stil 500 Cc. of sample in a roomy retort using writing paper connect with condenser. Nesslerise the first 50 Cc. with ndard $NH_4Cl$, of which 1 Cc. = 0·01 mg. $NH_3$. Add [illegible] uivalent quantity of $NH_3$ and double the result to arrive at number of mgrs. of **Free** $NH_3$ per litre = parts per million. Reject the next 150 Cc. coming over, stop distilling and add 50 Cc. of a solution containing 0·4 Gm. Potassium Permanganate and 10 Gm. Potassium Hydrate which has been freshly boiled 20 minutes. Distil again and Nesslerise the **Albuminoid Ammonia** in 50 Cc. of the distillate at a time until it is $NH_3$ free. Add the equivalents together and double as above for parts per million.

**Nessler's Reagent for Ammonia** ($O_d^a$.).—*Syn.* SOLUTION OF POTASSIO-MERCURIC IODIDE.

Dissolve Potassium Iodide 7 and Mercuric Chloride 2½, in Distilled Water 160. To this add more of the Mercuric Chloride in solution until the precipitate no longer disappears on well stirring, and a slight permanent precipitate remains. Then add Sodium Hydroxide 24, dissolve, add a little more solution of Mercuric Chloride and Distilled Water *q.s.* to 200.

On the addition of this test to ammonia or an ammonium salt in solution, it lets fall a brown precipitate of Oxy-di-Mercuric-ammonium Iodide.

**Chlorine.** Titrate 70 Cc. in a white basin with standard $AgNO_3$ of which 1 Cc. = 1 grain per gallon, using potassium chromate as indicator.

**Nitrites.** To 70 Cc. add a crystal of Potassium Iodide. Dissolve and add a few drops of starch solution, then a drop or two of sulphuric acid. Conduct a control experiment. Elimination of Iodine and consequent colouring of starch indicates presence of Nitrites.

**Hardness.** Titrate 70 Cc. in a bottle with **Clark's Standard Soap Solution** until froth is permanent. Repeat until the accurate number of Cc. is found. 1 Cc. = 1 degree of hardness.

**Poisonous Metals.** Add with a rod a drop of ammonium sulphide solution to 70 Cc. of the sample. This will precipitate Pb, Cu, and Fe. Add a few drops of dilute hydrochloric acid—if colour disappears or diminishes Fe is present. The colour that remains is due to Cu or Pb and its depth may be compared with standard solutions.

## MISCELLANEOUS TESTS.

**Congo Red.** An aniline colour prepared from tetra-azo-diphenylchloride and naphthionic acid. Is turned blue by acids, and red by alkalis (reverse of litmus).

**Congo Paper** is prepared by impregnating paper with a solution of Congo Red, 1 part in 10,000 parts of a mixture of Alcohol 3, Water 1. It is not very sensitive, but may be used in cases in which results obtained with litmus remain doubtful, on account of the specific colour of the liquid. Has been used to indicate absence of Hydrochloric Acid in the stomach in cases of cancer; as weak lactic acid does not affect its colour. —B.M.J. ii./88,806.

**'Diazo' Test for Typhoid Fever (Ehrlich).**

A. Hydrochloric (or Nitric) Acid 10, Water to 200, Sulphanilic Acid *q.s.* to saturate.

B. Sodium Nitrite 1, Water to 200.

For use, mix 200 of A with 5 of B (this must be done immediately before use), add to an equal volume of urine and render alkaline with strong ammonia.

The reaction is indicated by a red coloration; on shaking, a characteristic pink froth appears. After 12 to 36 hours a deposit is formed, the upper part being green or black.—L. i./89,880; ii. 90,413,642,693.

Summary of results in 130 cases; however regarded clinically, the reaction cannot commend itself to the chemist.—L. i., 92,990. Is now deemed of little value.

**Widal's Test** *v.p.* 510.

**Dimethylamidoazobenzol** is used in 1 in 500 alcoholic solution as an acid and alkali indicator. It is not affected by carbon dioxide, and thus possesses the advantage over phenolphthalein in titration of not requiring heat for obtaining the end-reaction.

**Gunzburg's Test for Free Hydrochloric Acid in Vomit.** Phloroglucin 2 Gm., Vanillin 1 Gm., Absolute Alcohol 30 Gm. A rose-red colour on warming a few drops with an equal amount of the sample to be tested, in a porcelain capsule indicates presence of HCl.

**Mayer's Reagent for Alkaloids** gives a white precipitate.

Mercuric Chloride 13·546 grammes, Potassium Iodide 49·8 grammes, Distilled Water to 1 litre.

**Phenol-phthaleïn** (*Off.*), a crystalline substance, produced by interaction of phenol and phthalic anhydride.

**Solution of Phenol-phthaleïn** (*Off.*).

One part in Alcohol (90 per cent.) 300, Distilled Water *q.s.* to 500; is a colourless solution, but is turned to a purple red colour if added to a liquid containing an excess of alkali. This, again, is immediately decolorised by an excess of acid. It is not suited for ammonia estimation.

**Semen Test.**

Iodine 2·54, Potassium Iodide 1·65, Distilled Water 30. If a drop of this solution be placed in juxtaposition with a drop of liquid obtained by moistening a seminal stain, numbers of peculiar brownish-red pointed rhomboidal crystals are precipitated. Other secretions, such as urine, pus, or mucus, do not give the reaction. As, however, alkaloids give a precipitate with the reagent, the presence of semen should be confirmed by evaporating a drop of the liquid from the moistened stain, fixing it by a flame and staining with eosin and methyl green. At the base of the head of the spermatozoon is a hemispherical portion which stains green, while the anterior part and tail stain red.—L. i./97, 1484. Some prefer the use of methyl green alone.

**Tropæoline OO, and Methyl-Orange (Helianthin)** (*Off.*)

Are used as tests for the presence of free acids. They form yellow solutions; the colour of the solution of the former is changed to crimson by acids, that of the latter to pink, but no change of colour is produced either by carbonic acid, acid carbonates, or solutions of metallic salts.–Chem. News, ii./81,288; i./83,123; P.J. 1882,273.

**Solution of Methyl-Orange** (*Off.*).

Methyl-Orange 0·4, Alcohol (90 per cent.) 50, Distilled Water *q.s.* to 200.

## II.—BACTERIOLOGICAL METHODS OF EXAMINATION OF PUS, SPUTUM, URINARY DEPOSIT, AND SIMILAR SPECIMENS FOR SOME PATHOGENIC ORGANISMS.

[A cabinet has been arranged containing the apparatus, stains and solutions necessary for the **Gram** separation of Organisms for Staining **Tubercular** Sputum, Urinary Deposit, &c., for collecting Blood for Widal's **Typhoid** reaction, and for taking and examining **Diphtheritic** Scrapings.—B.M.J. ii./00,332; L. ii./00,1282.]

**Bacillus Diphtheriæ** (Klebs Löffler Bacillus).—1. **Films** are prepared from the specimens obtained by passing a sterile swab over the superficial membrane of fauces of the patient suspected. 2. Stain with alkaline methylene blue or by Gram's method. 3. Dry, mount in xylol balsam.

Recognition.—*B. diphtheriæ* may be distinguished from the other organisms which will probably be seen in large numbers by the following characteristics: Irregularity in size and outline, straight or slightly curved, more or less clubbed at one or both ends, sometimes spindle shaped, or as curved wedges, occasionally irregularly segmented, rarely or never regular in outline. Parallel grouping and 'Chinese alphabet' characteristic. Stain irregularly. Show polar staining with methylene blue, and Gram's method, *v.p.*544. "Long, medium, and short forms exist. The relation between the long and short forms has not yet been settled. Appears to be of clinical importance, for the virulence of the long variety is said to be greater, whilst the vitality is somewhat less, than that of the short form." (Curtis's 'Essentials of Bacteriology,' 1900.) Cultivate on blood-serum—fine cream-coloured growth in sixteen to twenty hours, film from the same stain with methylene blue, Neisser's or Gram's method. Cultivations should in all cases be made on blood-serum or glycerin agar before the result of diagnosis can be positive. Further characteristics,—no threads formed, no spores, non-motile. Form differs with culture medium.

**Sections of Membrane.**—Stain by Eosin-Gram-Weigert method:—

1. Stain 4 or 5 min. with eosin solution. 2. Wash well in water. 3. Pass through a little alcohol. 4. Stain with anilin-gentian-violet, 10 min. 5. Cover with Gram's solution, 3 min. 6. Decolorise with anilin oil. 7. Clear with xylol and mount in xylol balsam.

Two reputed pseudo-varieties; one described by Löffler, morphologically and in all respects similar to the Klebs-Löffler organism, but non-virulent, the other by Von Hoffman shortly after the latter—stains more regularly than the Klebs-Löffler bacillus, and usually showed no polar staining. "The existence of pseudo-varieties is not yet satisfactorily settled, though recently the 'pseudo' bacilli are thought to be modified Klebs-Löffler, though perhaps not always, as more than one species having the same morphology may exist."—*Trans. Brit. Inst. Prevent. Med.*, First Series 1897.

Neisser's differential method for *B. diphtheriæ* by means of methylene blue and benzoin solutions. B.M.J. ii/98,599.

**Micrococcus Gonorrhœæ.**—Stain specimen with carbol-methylene blue or alkaline methylene blue.

Recognition.—The cocci usually occur in pairs, occasionally in tetrads; in groups within the cells (Foulerton). They vary somewhat in size, and are somewhat ovoid, the opposed surfaces being flattened or even concave. Not stained by Gram's method.

**Fraenkel's Pneumococcus.**—1. Prepare films from 'rusty' portion of sputum. 2. Stain by Gram and counter-stain with eosin half to one minute. 3. Stain other films by carbol-fuchsin. Overstain (five minutes). Slightly decolorise with weak acetic acid. (For capsule.)

Recognition.—Diplococcus (free ends are often pointed—*Diplo. lanceolatus*) sometimes occurs in short chains of four to ten cocci. Has a capsule. Stains by Gram's method.

**Friedlander's Pneumobacillus.**—Present in only small proportion of cases of pneumonia. Is not stained by Gram's method, but stains well by carbol-fuchsin.

Recognition.—A bacillus varying considerably in length; usually short, with rounded ends. Has a capsule.

**Bacillus Tuberculosis.**—Sputum and sections.—1. Prepare film from caseous particle of sputum or a section ready for staining, and fix by usual methods. 2. Boil filtered carbol-fuchsin in a test tube and cover specimens with it entirely;

stain films 5 mins., sections 10 mins. 3. Wash well in water. 4. Decolorise almost completely by immersing in 25 per cent. $H_2SO_4$. 5. Wash well in water. 6. Counterstain with alkaline methylene blue—sputum, 1 to 2 mins.; sections, 3 to 4 mins. 7. Wash, dry, and mount in xylol balsam (sputum). 8. If section, dehydrate with alcohol, treat with xylol, and mount in xylol balsam.

Gabbett's Stain.—i. *Fuchsin Solution.* Fuchsin 1, Absolute Alcohol 10, Phenol Solution (5 per cent.) 100. ii. *Methylene Blue Solution.* Methylene Blue 2, Pure Sulphuric Acid 25, Water 75. Stain 2 or 3 minutes with i. warm, then with ii. 1 or 2 mins., wash dry and mount in xylol balsam. The decolorising and contrast staining are done in one process.

**Urine.**—At least six films should be prepared from centrifugalised sediment. Stain as for sputum, but wash after 5 above in absolute alcohol. In taking sample wash glans penis, using a sterilised catheter if necessary, to ensure not getting any Smegma bacilli—the latter resist acids when decolorising, but differ from *Bacillus tuberculosis* as follows:—They are said to be slightly shorter and straighter, and also to be decolorised with absolute alcohol.

Recognition.— Delicate, straight, or more usually slightly curved rods. When stained, usually beaded in appearance. The length of the organism is commonly said to be about one-quarter to one-half the diameter of a red blood-corpuscle, but it varies considerably. Involution and branching forms occasionally met with.

**Bacillus Typhi abdominalis.**—Widal's Reaction. Collect sample of blood on a slide in a series of droplets by pricking the lobe of the ear or the finger. These droplets may be allowed to dry. A loopful of normal saline is mixed with a dried droplet and to one loopful of this add nine loopfuls of water, normal saline, or sterile broth. One loopful of this dilution is now mixed at end of slide with four loopfuls of fresh typhoid broth, 24 hours old. Examine a loopful of this final dilution as hanging drop—at once, in a quarter, half, and one hour.

Or the fresh blood is drawn into a small pipette, the ends are sealed, the end nearest the blood being sealed first. The serum is allowed to separate, or the tube is centrifugalised to cause as complete separation as possible of corpuscles which may mask a reaction. The serum is blown out, one loopful mixed with 9 of diluent and 1 of this with 4 of typhoid broth as above. The pipette method is preferred, but frequently dried blood is more convenient for the practitioner to obtain.

Or, roughly, the fresh blood may be diluted 1 drop with from 10 to 30 drops of the typhoid broth twenty-four hours old, on a slide or in a watch-glass, mounted, and examined as a hanging drop.

Positive Reaction.—Complete: 'Clumping' of organisms and cessation of movement (as a rule in under thirty minutes, or may be instantaneous). Partial Reaction: 'Clumping' only. Negative Reaction: No alteration in one hour.

**Notes of Caution in Applying.**—Sometimes broth cultures 'clump' on their own account, the broth itself or a control with normal serum should always be examined. The serum of persons having previously had typhoid may react even years after. This may cause confusion where a typhoid diagnosis had not been given. Again, if only slightly diluted, *e.g.*, 1 in 10, normal serum frequently 'clumps,' which is not the case on further dilution,—1 in 30 or 50 is safest. Too *great* a dilution may obscure. The blood of *all* cases does not react, case may be too early (generally obtained about end of first week). Cases recorded where reaction intermits, absent one day, present next, and again recurs, and also a few described where there was no reaction throughout the disease, but these are fortunately very rare.—Clinical Journal, May 2, 1900.

A pathogenic organism other than *B. typhi abdominalis* may give the reaction, *e.g.*, according to Durham, *Gartner's bacillus* when mixed with typhoid broth may react. If one drop of blood serum of a patient under infection with this organism (from eating unsound meat) be mixed with 9 of typhoid broth, a positive result may be obtained, but 1 in 100 dilution is negative.—B.M.J. i./98,1797.

"Widal's reaction, both positive and negative, may now be claimed to be specific." (Curtis's 'Essentials of Bacteriology.') For the greater simplification of Widal's reaction, dead cultures of the bacillus (killed by heat) may be employed, and Wright and Semple's sero-sedimentation tubes may be used. These represent the macroscopic method of application.—B.M.J. i./97,1214.

As to the nature and causes of the reaction, the bacilli produce in the spleen and elsewhere toxins which, by their action on the tissues, particularly on the blood, cause certain changes, apparently chemical in nature, giving to the blood and certain fluids this property of causing clumping and cessation of movement when mixed with the typhoid bacilli.—Clinical Journal, May 2, 1900.

Recognition.—*B. typhi abdominalis* is about thrice as long as broad, with rounded ends, actively motile—flagella stained by McCrorie's, Van Ermengem's, or Pitfield's methods, are long, 12 to 16 in number, though films usually do not show more than 8 or 10. Does not produce indol reaction. Growth on potato translucent, in milk no coagulation, in glucose-gelatin no gas formation (differences from *B. coli*).

*Gartner's bacillus* thought to be a modification of *B. coli*, and the above differences not always constant and even the agglutination test between *B. typhi abdominalis* and *B. coli* not always reliable. Stab and shake cultures on agar containing 0·3 per cent. glucose, stained with neutral red safranine distinguish, *B. coli* discharging it, probably because it is a strong reducing agent, producing a saffron tint with fluorescence in 12 to 24 hours, but *B. typhi abdominalis* is without action on the red tint.—L. i./01,613; P.J. i./01,391.

**Malarial Parasites.**—Several varieties exist, classed as quotidian, tertian, quartan, according as liberation of spores into the circulation and the corresponding fever occur at 24, 48 and 72 hours respectively. These may be again classed into divisions according to severity of fever. Films of blood may be stained with aqueous methylene blue and eosin. Consult Manson on 'Malarial Fever,' vol. viii., Allbutt's *System of Medicine.* Muir & Ritchie, 'Manual,' Curtis's 'Essentials.' Application of Romanowsky's stain.—B.M.J. i./01,635.

**Preparation of Sections before Staining.**—Small pieces of the tissue to be examined for organisms may first be 'fixed'—*i.e.*, made permanent by soaking in a saturated solution of corrosive sublimate made with normal saline, or in the platino-aceto-osmic mixture of Hermann, or in one of numerous mixtures of this kind, for twelve, twenty-four, or more hours, according to the size of the tissue.

They are then hardened by immersing in alcohol, passing through gradually increasing strengths—*e.g.*, for twenty-four hours respectively in 30, 60, 90 per cent., and finally into absolute alcohol. (In urgent cases the tissue, if small, may often be transferred direct from the "fixer" to the absolute alcohol.) It is then placed in a mixture of equal parts of absolute alcohol and chloroform for twenty-four hours. From this it is removed to chloroform for four hours, thence to a mixture of paraffin (melting at 46·5° C.) and chloroform in a wide-mouthed stoppered bottle, and kept at 50° C. for four hours in an oven which can be maintained at this temperature. The tissue is then transferred to paraffin, and kept at the same temperature for twelve to sixteen hours. It is finally poured into a little box, *secundem artem*, covered with paraffin, allowed to set, and cut with a good microtome.

Tissues are also hardened with formalin, and may be imbedded in gum acacia, celloidin, etc.—but for bacteriological work the paraffin treatment is the one most recommended. The formalin and gum method is useful when the diagnosis is urgent.

## III.—PREPARATION OF CULTURE-MEDIA.

Here may be mentioned the formulæ for preparing the commoner sterile bacteriological nutrient media.

**Nutrient Broth.**—The older method is as follows:—Beef (or horse, &c., flesh) 150 Gm. freed from fat and minced, is extracted for twenty-four hours with cold water 1,000 C.c. The albumin is coagulated by heat and strained off. The resulting extract is boiled ten minutes with sodium chloride 5 Gm., and peptone (in powder) 10 Gm., with occasional stirring. Make faintly alkaline with 2 per cent. sodium carbonate, using litmus as indicator, and filtered.

For filtering all media use a special tough thin French-grey paper. All media are used either neutral or faintly alkaline. Some standardise their media with the aid of decinormal soda.

In place of above, a good meat extract is now used as the starting-point. Boil 5 Gm. of the extract, peptone 10 Gm., sodium chloride 5 Gm., water 1,000 C.c.; and finish as above. The broth thus prepared may be run into specially cleaned test-tubes, about 5 C.c. into each. These are now plugged and sterilised at 100° C. for a quarter of an hour on three successive days, or the broth may be converted into other nutrient media.

**Nutrient Gelatin.**—Broth 1,000 C.c., gelatin 125 Gm. Melt in steamer, and clarify by adding the white of one egg, to which a little water may have been added, render faintly alkaline, place in steamer to make quite hot, and filter in the same, leaving the portion containing the coagulated albumin, which will have subsided, carefully until the last. Run the medium into tubes, about 5 and 8 C.c. into each according as to whether 'slopes' or 'stab' preparations are required. Sterilise on three successive days.

**Nutrient Agar.**—For this medium the following gives satisfactory results:—Nutrient broth 1,000 Cc., powdered agar-agar 20 Gm. (passed through a drug-mill and made as fine as possible); melt in the steamer, or better in an autoclave, allow to cool slightly, or, if time is an object, cool by shaking under a stream of cold water from the tap; add white of two eggs, make just alkaline, boil in the steamer or autoclave twenty minutes, and then transfer to a tall beaker; allow to get quite cold, remove the solid mass from the beaker, and cut off the bottom of the block of jelly containing the coagulated albumin and sediment. The remainder is again thoroughly melted in the autoclave or steamer, and will then filter well (in the steamer). It may be poured into tubes, and sterilised in the autoclave for a quarter of an hour under a pressure of at least two atmospheres—or, in the steamer on three successive days. Instead of cutting off the sediment on setting, it may be kept out by straining the hot liquid through butter-cloth previous to filtration.

**Blood Agar.**—This medium is prepared by streaking nutrient agar with blood drawn under the strictest aseptic precautions from the finger, or from a freshly-killed animal. It may be used in the 'slope' form or as plates. Neisser's gonococcus grows favourably on.

**Glucose Gelatin** consists of nutrient gelatin to which or 2 per cent. glucose has been added after filtration. For he cultivation of anaërobic organisms and to observe gas ormation.

**Glucose Agar** consists of nutrient agar to which 1 or 2 per cent. glucose has been added after filtration. In the upright form is used also for anaërobic work.

**Glycerin Agar** is nutrient agar with the addition of 6 per ent. of glycerin. Is a satisfactory medium for the growth of *Bacillus diphtheriæ*, *B. tuberculosis* and *Streptothrix actinomycosis.*

**Peptone-water.**—Peptone 10 Gm., sodium chloride 0 Gm., tap water 1,000 Cc.: boil in the steamer one hour, lter, and sterilise. Not necessary to render alkaline. Used or the production of the indol reaction as one of the aids, or example, to distinction (?) of *B. typhi abdominalis* and *B. coli.* It was originally utilised for cholera-diagnosis.

**Potato.**—Large specimens are thoroughly cleaned and cut nto 'half cylinders' with a potato-borer. The brown peel removed and the pieces soaked overnight in water to wash ff excess of starch. Wide test-tubes (1 inch by 6 inches) are lugged and sterilised, and a little distilled water is placed ith each half-cylinder in the tubes. The water prevents rying up in sterilising, which is effected by heating on three uccessive days.

**Milk.**—The cream skimmed from good cows' milk, and the sulting 'skimmed' milk sterilised in the steamer for ½ hour n three successive days.

**Blood-serum.**—The serum is separated from fresh blood tained from the jugular vein of the sheep, filtered through a erile Chamberland filter. (The candle is heated in a mufflefurnace, or in a bright fire, if it has been previously used for the same purpose.) The filtrate may then be poured into sterile test-tubes, plugged—and inspissated, first at 80° C., then at 60° C., and the latter temperature is maintained eight to twelve hours, or more if necessary. The medium is finally tested after capping by incubating at 37° C. for twenty-four hours to ensure sterility.

**The Cleaning of Cover-Slips.**—The usual method of preparing cover-slips for use is to boil the slips in potassium bichromate and sulphuric-acid solution; but there are numerous methods—some complicated. Frequently long immersion in cold bichromate and acid, or boiling in aqua regia, will prove effectual and sometimes, after treating obstinate slips with the strongest reagents of this kind without success, they will give a perfect film after a single immersion in alcohol.

**Staining Methods.**—Gram's method is as follows:—

FILMS:—

1. Anlin-Gentian-Violet, 3—5 mins. 2. Without washing, Gram's solution ½ to 1 min. 3. Pour off Gram's solution, and without washing in water, rinse with alcohol, until no further colour comes away. 4. Wash in water. Dry. Mount in xylol balsam. 4a. If pus, after washing in water (4), counterstain with Eosin 1 min. Wash. Dry. Mount.

**Gram-Eosin Method for Sections.**—1. Place a little alcohol on section ½ min. 2. Cover with filtered Anilin-Gentian-Violet 10 mins. 3. Gram's solution. 3 mins. 4. Decolorise in Alcohol. Wash in water. 5. Stain with Eosin 1—2 mins. Wash in water. 6. Dehydrate with Alcohol. 7. Clear with Xylol, mount in xylol balsam.

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List of some pathogenic and common non-pathogenic organisms stained or not stained by Gram's method:—

A. STAINED.

Staphylococcus, all varieties.
Streptococcus, pyogenes.
,, erysipelatis.
Micrococcus tetragenes.
Fraenkel's pneumococcus.
Bacillus anthracis.
,, diptheriæ (Klebs-Löffler).
,, pseudo-diptheriæ.
,, xerosis.
,, tuberculosis.
,, lepræ.
,, smegmatis.
,, tetani.
,, aërogenes capsulatus.
,, murisepticus.
Sarcinæ.
Yeasts (Blastomycetes).
Ringworm Fungi.
Streptothrix of Actinomycosis.
,, of Madura disease.

B. NOT STAINED.

Gonococcus.
Diplococcus intracellularis meningitidis (Weichselbaum).
Bacillus mallei.
,, typhi abdominalis.
,, coli communis.
,, enteritidis (Gärtner).
,, pestis.
,, influenzæ.
,, Friedländer's Pneumo—
,, of Malignant œdema
,, of Symptomatic anthrax (Charbon).
,, prodigiosus.
,, proteus *var.*
,, mycoides.
,, fluorescens liq. and non-liq.
,, subtilis.
Spirillum choleræ Asiatic.
,, Metchinikovi.
,, Finkler and Prior.
,, Obermeieri.

—C. and D. 1901, 51

# APPENDIX I.

## CLASSIFIED LIST

OF

## *HISTOLOGICAL CLEARING, HARDENING, AND MOUNTING REAGENTS, BACTERIOLOGICAL STAINS, CHEMICAL TEST SOLUTIONS, VOLUMETRIC SOLUTIONS.*

**Bleaching Agents—**

- Acid Nitric c. Alum.
- ,, Sulphurosum.
- Eau de Javelle.
- ,, Labarraque.
- Grenacher's Mixture.
- Hydrogen Peroxide (20 vols.).
- Phloroglucin.
- Pouchet's Mixture.
- Sodium Peroxide.

**Clearing and Macerating Agents—**

- Acid Carbolic, No. 1.
- ,, ,, and Xylol.
- ,, Nitric 1·42.
- ,, Sulphuric.
- Anilin Oil.
- Benzol.
- Chloral Hydrate.
- Chloroform.
- Creosote, Anhydrous.
- Von Ebner's Solution.
- Gage's Mixture (Carbolic Acid and Turpentine.)
- Naphtha.
- Oil of Bergamot.
- ,, Cajuput.
- ,, Cedar Wood, for clearing.
- ,, Cedar Wood, thick for lens immersion
- ,, Citron.
- ,, Cloves.
- ,, Eucalyptus.
- ,, Lavender.
- ,, Origanum.
- ,, Peppermint.
- ,, Sandal Wood.
- Toluol.
- Turpentine.
- Xylol.

**Culture Media—**

- Sterile Agar Agar Tubes.
- ,, Blood Serum.
- ,, Broth.
- ,, Gelatin.
- ,, Glucose Agar.
- ,, Glucose Gelatin.
- ,, Glycerin Agar.
- ,, Milk.
- ,, Peptone Water
- ,, Potato.

**Decalcifying Fluids—**

- Acid Hydrofluoric.
- ,, Phosphoric. Conc. 1·5.
- ,, Picric.
- Fol's Fluid.
- Gage's Fluid.
- Haug's Phloroglucin Fluid.
- Perenyi's Fluid.
- Thoma's Fluid.

**Decolorising and Mordanting Agents—**

- Acid Alcohol.
- Anilin Water (Ehrlich).
- Gram's Solution.
- Lithia Water.
- Loffler's Mordants :
  - (i) Tannin, Ferrous Sulphate, & Fuchsin.
  - (ii) Caustic Soda.
  - (iii) Sulphuric Acid, Standardised.
- Pal's Solution.
- Potass. Permanganate Sol.
- Sulphanilic & Nitric Acids.
- Toluidin Water.

Weigert's Differentiating Fluid.

Examination and Mounting Media—
Agar Agar.
,, ,, Powder.
Acidulated Glycerin.
Albumin, Blood.
,, Egg.
Alcohol Absolute.
,, (Methylated Spirit).
Artificial Iodised Serum.
Beale's Glycerin Jelly.
Blood Serum.
Calc. Chloride 50 % Sol.
Canada Balsam.
,, ,, dried.
,, ,, ,, in Benzol.
,, ,, ,, in Chlorof.
,, ,, ,, in Turps.
,, ,, ,, in Xylol.
Carbolic Acid, 1 per cent.
Carbolised Syrup.
Castor Oil.
Colophony in Turpentine.
Chloral.
Copper Acetate & Mercuric Chloride Sol. in Glycerin.
Dammar in Benzol.
,, in Xylol.
Deane's Glycerin Jelly.
Ether Meth., 730, 725, 720 717.
Farrant's Solution.
Fol's Glycerin Jelly.
Gage's Fluid.
Glycerin, Pure Distilled.
,, Jelly.
,, and Alcohol.
,, and Formic Acid.
,, and Gum.
Hayem's Mount. Medium.
Hayem's Solution.
Iodine Mounting Fluid.
Klein's Dammar Lac.
Levulose.
Mayer's Glyc. Albumin.
Methyl Chloride, in Cylinders for freezing.
Normal Salt Solution.
Pacini's Fluids, various.
Pictet's Liquid.
Potassium Acetate Sat. Sol.
Sandarac in Abs. Alcohol.

Fixing and Hardening Agents—
Acetone.
Acid Acetic
,, ,, Glacial.
,, Chromic.
,, ,, 5 per cent. Sol.
,, ,, and Methylated Spirit (Klein's Fluid)
Acid Chromic Pt. Chloride
,, Chromo-acetic.
,, Chromo-formic.
,, Chromo-nitric.
,, Chromo-osmic.
,, Formic. Fort. S.G. 1·2.
,, Osmic 1/4 gram tubes and gram tubes.
Acid Osmic Solution, 1 %
,, Picric, cryst.
,, ,, Sol. aq. 1 %
,, ,, Sol. alc. 6 %
,, Picro-chromic.
,, Picro-hydrochloric.
,, Picro-nitric.
,, Picro sulphuric.
,, Sulphanilic.
Alcohol, Absolute.
,, Acetic.
,, Methylated (Methylated Spirit).
Alcohol, Methylic, commercial.
Alcohol, Methylic, pure.
Ammonium Bichromate.
,, Chromate.
Carnoy's Fluid 1.
,, ,, 2.
Copper Chloride and Acetate (Carnoy)
Corrosive Sublimate.
Cox's Solution.
Cupric Sulphate.
Delafield's Fluid.
Erlicki's Fluid.
Flemming's Solution, stron
,, ,, weak
Foa's Mixture
Fol's Solution.
Formaldehyde 40 per cent
Gilson's Mercuro-nitri Mixture.
Gold Chloride 15 gr tubes.
Iodine Solution, Lugol's.
Iron Perchloride, Fol Solution of.
Kleinenberg's Fluid.
Klein's Fluid.
Kultschitzky's Fluid.
Lang's Sublimate Solutio
Man's Picro-sublimate.

Merkel's Platinic Chloride Mixture.
Müller's Fluid.
,, ,, and Spirit.
Perenyi's Fixing Fluid.
Platinic Chlori. 15 grn. tubes
Platinic Chloride Solution (Rabl).
Platino-aceto-osmic Mixture (Hermann).
Potassium Bichromate.
,, Chromate.
Pyridin.
Rabl's Picro-sublimate.
,, Fluid (Chromic and Formic Acid).
Silver Nitrate.
Zencker's Mixture.

Imbedding Media—
Cacao Butter.
Celloidin (Schering's).
,, Solution.
Gelatin, French, Gold Label.
Gerlach's Gelatin.
Joliet's Gum.
Kleb's Gelatin.
Paraffin Wax, 100 F., 37·8°C.
Paraffin Wax, 110°F., 43·3°C.
Paraffin Wax, 120°F., 48·9°C.
Paraffin Wax, 127°F., 53°C.
Paraffin Wax, 135°F., 57·3°C. and other intermediate melting points.
Resin and Wax.
Wax and Oil Mixture.

Materials for preparing Staining and other Solutions—
Acid Carminic.
,, Picric.
,, Rosolic.
Alcannin Extract, soluble.
Alizarin Paste.
Alizarin - Sodium - Mono - sulphonate.
Allantoin.
Ammonium Hæmatate, Mayer.
Ammonium Picrate.
Amygdalin.
Anilin Oil.
,, Hydrochloride.
,, Sulphate.
,, Yellow.
Asphalt.
Auramin.
Aurin.
Benzoazurin.
Benzopurpurin.
Black, Blue.
,, Brilliant.
,, Raven.
,, Violet.
Bleu de Lyon.
Blue, Alizarin, Ehrlich.
,, China.
,, Gentian.
,, Methyl.
,, Methyl Water.
,, Methylene.
,, ,, Medicinal,
,, Nicholson's.
,, Night, for Flagella.
,, Opal.
,, Polychromatic.
,, Prussian, soluble.
,, Soluble, pure.
,, Thionin.
,, Toluidin.
,, Victoria.
Brown, Bismarck.
Carmalum.
Carmin.
Chlorophyl.
Chrysoidin.
Citronin.
Congo Red.
,, ,, Paper.
Corallin.
Cyanin.
Dahlia.
Dimethylamidoazobenzol (acid & alkali indicator).
Eosin, Alcohol Soluble.
,, Methyl.
,, Water-Soluble.
Erythrosin.
Flamingo.
Fluorescein.
Fuchsin.
,, Acid.
Green, Acid.
,, Brilliant.
,, Emerald.
,, Iodine.
,, Malachite.
,, Methyl.
Hæmalum.
Hæmatein Ammon.
Hæmatein.
Hæmatoxylin, Cryst.
Helianthin.
Indigo.
Indigocarmin.
Aurantin.

Indulin.
Logwood Extract, pure.
Magenta (Rosein).
Nicotine.
Nigrosin.
Orange.
,, Methyl.
Orcein.
Orceille Extract.
Pepsin.
Peptone, Pale Brown.
,, Pure White.
,, Witte's.
Phloroglucin.
Phosphin.
Phloxin.
Ponceau.
Primrose.
Purpurin.
Purple (Spiller's).
Pyoktannin (Violet).
,, (Yellow).
Red, Bordeaux.
,, Naphthalin.
,, Neutral.
Rhodamin.
Rosanilin.
,, Acetate.
,, Hydrochloride.
,, Nitrate.
,, Sulphate.
Rose Bengal.
Rosein.
Rubin S.
Safranin.
Scarlet, Atlas.
Sloelin (Blue Black).
Thionin.
Thymol.
Triple Stain (Ehrlich Biondi).
Tropæolin, O.O.
Uranin.
Vanillin.
Vesuvin.
Violet, Gentian (Gram).
Violet, Hoffmann's (Dahlia).
,, Methyl.
,, ,, 5 B.
,, ,, 6 B.
Yellow, Manchester.
,, Metanil Crystal.
,, Primrose.

**Staining Solutions—**
Acid Picric, Sat. Aq.
,, ,, Sol. Alc.
Ammonia Carmine (Gerlach)
Ammoniated Gentian-Violet (Weigert).
Anilin Blue.
,, ,, Picro—.
,, Brown.
Benzopurpurin, Alc.
,, Aq.
Blue, Hoffmann's.
,, Methyl Aq.
,, ,, Sat. Alc.
,, Methylene, Aq.
,, ,, Alc. Sat.
,, ,, Polychromatic).
,, Toluidin.
,, Methylene, Sulphuric Acid.
,, Victoria.
Borax Methylene Blue.
Borofuchsin.
Brown, Bismarck.
,, ,, Alc.
Carbol-fuchsin (Ziehl-Neelsen).
Carbol-Gentian-Violet.
,, Methylene Blue.
Carmalum (Mayer).
Carmine.
,, Alcoholic Hydrochloric Acid.
,, Alcoholic Solution (Grenacher).
,, Alum Solution Grenacher).
,, Alum (Ranvier).
,, Borax Alc. (Grenacher).
,, Borax Solution (Grenacher.)
,, Glycerin.
,, Lithium Solution (Orth).
,, Solution (Beale).
,, Chloral.
Chrysoidin.
Cochineal.
,, Alcoholic (Mayer)
,, -Alum (Czokor).
,, Tincture (Mayer).
Corallin.
Cyanin.
Ehrlich-Biondi Acidophilous Mixture.
,, Triple Stain.
Ehrlich's Triacid Mixture with Glycerin.

Ehrlich-Weigert Fuchsin-anilin.
Eosin Aqueous.
,, Alc.
,, ,, Saturated.
,, Glycerin.
Ferrier's Liquid.
Fluorescein, with Sodium Bicarbonate for corneal staining.
Fuchsin Aqueous.
,, Alc. Sat.
,, Carbolised (Ziehl-Neelsen or Kühne).
,, Acid Aqueous.
,, Anilin (Ehrlich-Weigert-Koch).
,, Anilin (Gibbes).
,, Methylene Blue & Anilin (Gibbes' double).
Gabbett's Stain, Fuchsin, Phenol and Methylene Blue (2 Solutions).
Gibbes' double stain.
Green, Iodine.
,, Methyl.
,, Methylene.
,, ,, and Eosin.
Hæmacalcium Alcoholic (Mayer).
Hæmalum (Mayer).
,, Glycerin (Mayer).
Hæmatoxylin ,, Acid.
,, Liq. Extract.
,, Ammoniated (Ehrlich).
,, (Delafield).
,, (Gage).
,, (Ehrlich).
,, (Friedländer).
,, Glycerin (Renaut).
,, (Grenacher).
,, (Heidenhain.)
,, Iron (2 Solutions) (Heidenhain).
,, (Kleinenberg).
Hæmatoxylin and Lithium (Ehrlich).
Hæmatoxylin and Lithium (Weigert).
Hæmatoxylin and Lithium Decolorising Solution.
Hayem's Solution.
Hermann's Mixture.
Indigo.
,, Carmine.
Jenner's Blood Stain.
Kernschwarz.
Kreatin.
Kühne's Anilin Methylene Blue.
Kühne's Carbolic Methylene Blue.
Lithium Carbonate Solution
Löffler's Alkaline Methylene Blue.
Löffler's Stain for Flagella, Sol. A. and Sol. B.
Logwood Extract.
,, ,, Liquid.
,, Staining Solution (Aqueous).
Magenta.
,, Phenol and Methylene Blue Gabbett's.
Metanil Yellow.
Neisser's Solutions for Double Staining.
Nigrosin.
Orcein Solution (1 per cent).
,, ,, (2 per cent).
with Acetic Acid.
Orseille (Wedl).
Pal's Solution (Decolorising)
,, ,, (Hæmatoxylin)
Paracarmine.
,, , Mayer.
Phær's Blood Stain.
Phloroglucin.
Picrocarmine.
,, Ammonia.
,, Lithium.
,, Solution.
Picro-nigrosin.
Prince's Blood Stain.
Purple (Spiller).
Renaut's Eosinated Glycerin Hæmatoxylin.
Rose Bengal.
Safranin, Aqueous.
,, Alcoholic.
Schulze's Solution (Chlor-Zinc Iodine).
Sherrington's Fluid.
Slœlin.
Thionin Blue.
Tincture of Alkanna.
Toison's Solution.
Unna's Orcein Acid.
,, ,, Neutral.
Van Ermengem's Solutions.
VanGieson's Picro-Fuchsin.
Vesuvin.
Violet Gentian, Alcoholic.
,, ,, Anilin,(Ehrlich
,, ,, ,, ,(Gram).

Violet Gentian Anilin (Aqueous)
,, Methyl Anilin Water.
,, ,, Conc. Alc.
,, ,, Kühne.
Violet Methyl, Oxalic Acid (Weigert
Watson Cheyne's Contrast Stain.
Ziehl's Double Stain, 2 Solutions.

## *STANDARD SOLUTIONS.*

Ammonia N, N/2.
Ammonium Acetate Solution, for $P_2O_5$ estimation.
,, Chloride, 1 cc=0,001 Gm. $NH_3$.
,, ,, N/10.
,, Sulphocyanide N, N/10.
Barium Chloride, N, N/2, N/10.
,, ,, for standardising Clark's Soap Solution.
,, Hydrate.
,, Nitrate.
Calcium Chloride, Wilson.
,, Hydrate.
,, Phosphate, for standardising Uranium Solution.
Citric Acid, for $P_2O_5$ estimation.
Fehling's Solution, in separate bottles.
Ferric Chloride, 1cc.=0,01 Gm. Fe.
Ferrous Ammonium Sulphate N/10, N/100.
Hubl's Iodo-Mercurochloride for Iodine No.
,, Potassium Iodide, for Iodine No.
Hydrochloric Acid, N, N/2, N/5, N/10.
Indigo, 1cc.=0,001 Gm. $N_2O_5$.
Iodine, N, N/10, N/100.
Magnesia Mixture, for $P_2O_5$.
Nitric Acid, N, N/2, N/5, N/10.
Oxalic Acid, N, N/2, N/[illegible], N/10.
Pavy's Ammonio-Cupric Solution.
,, Concentrated Copper Solution.
Phosphoric Acid, N/10.
Potassium Bichromate, N, N/10.
,, Bromate, N/10 for Br estimation.
,, Bromide.
,, Chromate, N, N/10.
,, Ferricyanide 10.077 Gm. in 1 litre.
,, Hydrate, N, N/2, N/4, N/5, N/10, N/100.
,, Iodate, for Iodine estimation.
,, Iodide, N/10, N/20.
Potassium Nitrate 1cc.=0.001 Gm. $N_2O_5$.
,, ,, N/100.
,, Nitrite 1cc.=0.001 Gm. $N_2O_3$.
,, ,, 1cc.=0,01 m.g. $N_2O_3$.
,, Permanganate N/10, N/[illegible], N/100.
,, Sulphocyanide, N/10.
Silver Nitrate, N, N/10, N/100.
Soap, Clark's.
Sodium Acetate, c. Acetic Acid.
,, Arsenite 1cc.=0,049 Gm. $As_2O_3$.
,, ,, N/10.
,, Carbonate N, N/5, N/10.

Sodium Chloride N, N/10.
,, Hydrate N, N/2, N/4, N/5, N/10, N/100.
,, Hypobromite.
,, Iodate N.
,, Nitrite, 1 per cent.
,, Thiosulphate N, N/10, N/100.
Sulphuric Acid N, N/2, N/10, N/20.
Sulphurous Acid N.
Uranium Acetate 1cc = 0,005 Gm. $P_2O_5$.
,, ,, 1cc = 0,002 Gm. $P_2O_5$.
,, ,, 1cc = 0,001 Gm. $P_2O_5$.
,, Nitrate 1cc = 0,005 Gm. $P_2O_5$.

## *TEST SOLUTIONS.*

Acid Picric, saturated, for Albumin.
,, Salicyl-Sulphonic, for Albumin.
,, Trichloracetic for Albumin.
Barfoed's Reagent for Glucose.
Calcium Beta-Naphthol-Sulphonate, for Albumin in Urine
Cochineal Alcoholic, Indicator for Acid and Alkali.
Corallin or Rosolic Acid.
Dragendorff's, for Alkaloids.
Ehrlich's Diazo, for Typhoid (2 Solutions).
Eosin Solution.
Erdmann's, for Alkaloids.
Esbach's, for Albumin.
Fehling's Solution.
Ferric Sulphate.
Fraude's, for Alkaloids.
Fröhde's ,,
Gowers', Haemacytometer Solution.
Gunzburg's, for free HCl. in vomit.
Heller's, for Albumin.
Iodine, for Semen.
Litmus Solution.
Mayer's, for Alkaloids.
Methyl Orange (indicator in titration).
Millon's, for Albumin and Urea.
Nessler's for Ammonia.
Nylander's, for Sugar in Urine.
Oliver's Peptone Test.
Pavy's, for sugar in Urine.
,, ,, conc.
Perchloride of Iron for Diacetic Acid.
Phenolphthalein (indicator in titration).
Phenylhydrazin and its Hydrochloride for sugar in Urine.
Potassium Chromate.
,, Ferrocyanide and Citric Acid, for Albumin in Urine.
,, Permanganate, Alkaline, for water analysis.
Safranin solution, 1 in 1,000 (indicator in titration).
Schultze's, for cellulose.
Schweitzer's, for distinction of fibres.
Sodium Hypobromite, for Urea estimation.
Spiegler's, for Albumin.
Starch Solution.

Tanret's, for Albumin.
Thresh's, for Alkaloids.
Tropæoline OO, for Acids.
Uffelman's, for Lactic Acid.

## *VARNISHES, CEMENTS, &c.*

Apathy's Cement.
Asphalt Solution.
Brown Cement.
Copal Varnish.
Dammar Varnish.
Gelatin Cement (Marsh).
Gold Size.
Hollis' Glue.
Marine Glue.
Shellac Varnish.
  ,, and Creasote Cement.
Tolu-balsam Cement.
Venice Turpentine.
Zinc White Cement.

# APPENDIX II.

## I.

## *ANTISEPTIC APPLICATIONS, SURGICAL DRESSINGS, &c.*

| **Anæsthetics.** | Page |
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| Amyl Nitrite | 71 |
| ,, ,, in Capsules for Inhalation | 72 |
| Anestile, Ethyl and Methyl Chloride | 52 |
| Carbon Tetrachloride | 131 |
| Chloroform, pure, Sp. Gr. 1·495, from Acetone | 142 |
| ,, ,, ,, ,, Methylated Spirit | 142 |
| ,, ,, ,, ,, Rectified Spirit | 141 |
| ,, ,, Capsules of, for inhalation | 145 |
| Cocaine, pure, soluble in fats and oils | 181 |
| ,, Hydrochloride, pure cryst. | 183 |
| ,, Solutions, 2 to 50 per cent. | 184 |
| Ether, Absolute, from Methylated Spirit, Sp. Gr. 0·717. For local Anæsthesia | 49 |
| Ether, Rect., from Methylated Spirit, washed and purified, Sp. Gr. 0·720. For Inhalation | 49 |
| Ether, B.P., from pure Spirit. Sp. Gr. 0·735 | 48 |
| Ether, Purified ,, ,, ,, Sp. Gr. 0·720 | 48 |
| ,, Methylated, commercial. Sp. Gr. 0·730 | 49 |
| ,, ,, photographic ,, 0·725 | 49 |
| Ethidene Dichloride | 230 |
| Ethyl Bromide, and Capsules of | 50 |
| ,, Chloride, in 10 gramme tubes | 51 |
| ,, Iodide, and Capsules of | 53 |
| ,, ,, and Chloroform Capsules | 53 |
| Eucaine A, and B | 182 |
| Holocaine | 193 |
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| Buttercloth, 6 yd. rolls, 2 in., 2½ in., 3 in., 4 in., and 6 in. | |
| Calico, unbleached or white, 6 yd. rolls, 1 in., 2 in., 2½ in., 3 in., 4 in., 6 in. wide | |
| Carbolic Gauze, 6 yd. rolls, 5 in. | 10 |
| Crinoline, for Silicating, 6 yd. rolls, 3 in. | |
| Domette (flannel), 6 yd. rolls, 3 in., 4 in., and 6 in. | |

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**Bandages** (*continued*).
Elastic, Circular Stocking, 2½ in., 3 in., and 3½ in. ...
Elastic, India Rubber Webbing, 1 in., 2 in., and 3 in.
Eucalyptus Gauze, 6 yd. rolls, 5 in. ... ... ... 232
Gauze, White Absorbent, *Tela depurata* ... ... 259
Muslin, Check, for Plaster of Paris, 3 in. ... ...
,, ,, impregnated with ,, ,, ... ...
Selvedge, or Fast Edge, 6 yd. rolls, 2 in., 2½ in., 3 in., and 3½ in. ... ... ... ... ... ...
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Silicated, 6 yd. rolls, 3 in., 4 in., and 6 in. ... ... 155
T, or Perineal ... ... ... ... ... ...
Triangular, Esmarch's ... ... ... ... ...
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'First Help for Wounds' ... ... ... ...

**Buttercloth** .. ... ... ... ... ... ...

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Amyl Nitrite, encased in silk, 1, 2, 3, 4, or 5 minims respectively ... ... ... ... ... . 72
Bromine, 1 Cc. tubes ... ... . ... ... ...
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Chloroform, 10 minims, encased in silk ... ... 145
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,, ,, ,, ,, uncovered .. 145
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Ethyl Bromide, 5 minims, encased in silk ... .. 51
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Isobutyl Nitrite, encased in silk ... ... ...
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**Catgut** Carbolised, in bottles with Carbolic Oil, Nos. 0, 1, 2, and 3 ... ... ... ... ... ... 11
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Jute, from bark of *Corchorus, sp. var.*, about 1 lb. rolls
,, Salicylic, in ½ lb. packages ... ... ... ...
Lint, Absorbent, finest, 1 lb. packages, 8 oz., 4 oz., 2 oz., and 1 oz. boxes... ... ... ...
,, ,, Surgeon's ... ... ... ... ...
,, Boric, 1 lb. packages, 8 oz., 4 oz., and 2 oz. boxes 4
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,, Marine, 1 lb. tins ... ... ... ... ... 400
,, Styptic ... ... ... ... ... ... ... 240
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,, Carbolic Acid, 1 in 20 ... ... ... ... 10
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Adhesive, on unglazed Calico, yd. rolls ... ...
,, ,, Union ... ... ... ... ...
,, ,, Dimity ... ... ... ... ...
,, ,, Tapes, unglazed Calico, Holland, Silk, and Waterproof ... ... ...
India Rubber Adhesive, 7 in. wide, yd. rolls ...
,, ,, ,, ,, ,, 5 yd. rolls ...
,, ,, ,, Porous, yd. rolls ... ...
,, ,, ,, Twilled Linen, yd. rolls ...
,, ,, ,, Tapes, ½ in., 1 in., 1½ in., 2 in., 2½ in., and 3 in...
,, ,, Belladonna, 7 in. wide, yd. rolls ...
Isinglass on Muslin, 7 in. wide, yd. rolls ... ...
,, ,, ,, 11 in. wide, 5 yd. rolls ... ...
,, ,, Silk, Flesh, White, and Black, yd. rolls
,, ,, Gold Beaters' Skin, 6 in. wide, yd. rolls
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**Plaster Mulls,** Unna's. These measure 1 metre × 20 centimetres, and contain in this area (⅕ square metre):

| | | | |
|---|---|---|---|
| Acidi Borici, | 10 grammes | ... ... ... | |
| ,, Pyrogallic, | 10 ,, | ... ... | |
| ,, Salicylici, | 50 ,, | ... ... ... | 32 |
| ,, ,, | 25 ,, | ... ... ... | 32 |
| ,, ,, | 10 ,, | ... ... ... | |
| Acidi Salicylici<br>Creosoti | 10 ,,<br>20 ,, | ... ... ... | 32 |
| Acidi Salicylici<br>Creosoti | 20 ,,<br>40 ,, | ... ... ... | 32 |
| Acidi Salicylici<br>Creosoti | 30 ,,<br>50 ,, | ... ... ... | 32 |
| Acidi Salicylici<br>Creosoti | 50 ,,<br>50 ,, | ... ... ... | 32 |
| Acidi Salicylici<br>Resorcin | 10 ,,<br>10 ,, | ... ... ... | 32 |
| Acidi Salicylici<br>Ext. Cannab. Ind. | 20 ,,<br>5 ,, | ... ... ... | 32 |
| Belladonnæ Ext. Virid. | 10 ,, | ... ... ... | 100 |
| Chrysarobini | 10 ,, | ... ... ... | 151 |
| Hydrargyri | 20 ,, | ... ... ... | 264 |
| Hydrargyri<br>Acidi Carbolici | 20 ,,<br>7·5 ,, | ... ... ... | 264 |
| Hydrargyri<br>Acidi Carbolici<br>Hydrarg. Perchlor.<br>Zinci Oxidi | 20 ,,<br>10 ,,<br>2 ,,<br>10 ,, | ... ... ... | 264 |
| Hydrargyri<br>Zinci Oxidi | 20 ,,<br>20 ,, | ... ... ... | 264 |
| Hydrargyri Ammon. | 10 ,, | ... ... ... | 294 |
| Ichthyol | 10 ,, | ... ... ... | 293 |
| Iodoformi | 10 ,, | ... ... ... | |

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,, 15 ,, ... ... ...
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**Salve Mulls,** Unna's. *See* note to Plaster Mulls, p. 556.
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,, ,, for Cocaine Solutions ... ...
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,, Gauze ... ... ... ... ...
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# APPENDIX III.

## GAUBIUS' TABLE

*Of Proportion of Dose according to Age.*

| | | | |
|---|---|---|---|
| For an adult, suppose the dose to be | 1 | or 60 | grains |
| Under 1 year will requre " | $\frac{1}{12}$ | " 5 | " |
| " 2 " " " | $\frac{1}{8}$ | " 8 | " |
| " 3 " " " | $\frac{1}{6}$ | " 10 | " |
| " 4 " " " | $\frac{1}{4}$ | " 15 | " |
| " 7 " " " | $\frac{1}{3}$ | " 20 | " |
| " 14 " " " | $\frac{1}{2}$ | " 30 | " |
| " 20 " " " | $\frac{2}{3}$ | " 40 | " |
| 21 to 60, the full dose, or | 1 | " 60 | " |

Above this age, an inverse gradation must be observed.

Another rule is, for children under 12, add 12 to the age, and divide the age by the amount thus obtained; thus for 8 years $\frac{8}{8 + 12} = \frac{2}{5}$ of adult dose.

# INDEX
AND
# POSOLOGICAL TABLE.

THIS index supplies the name and adult dose of every drug and preparation described in the foregoing pages (if used internally). The doses are based on personal experience, or are culled from the best authorities.

Official names are printed in italics. To render the index comprehensive, many preparations in general use, not elsewhere mentioned, are included, with appropriate doses. Lists of Formulæ for **Bougies, Effervescent Preparations, Hypodermic Injections, Lamels and Tablets, Lozenges (Trochisci), Ophthalmic Discs, Pessaries, Pills, Suppositories, Tabellæ and Tablets (Compressed)** are added in alphabetical order. List of **Triturations and Levigations**, *v.p.*462.

| NAME. | DOSE. | PAGE |
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| Abbreviations | | xvii |
| A. B. C. Liniment | | 47 |
| Abies Canadensis | | 474 |
| Abrastol | 10 to 30 gr. | 340 |
| Abrin | | 1 |
| Abrus Precatorius | | 1 |
| *Absolute Alcohol* | | 54 |
| Absolute Phenol | 1 to 3 gr. | 8 |
| Absorbent Powders | | 315 |
| [illegible] | | xxiv |
| *Acaciæ Cortex* | | xxiv |
| ,, *Gummi* | ad libitum | |
| A.C.E. | | 145 |
| *Acetanilide, syn. Antifebrin* | 1 to 3 gr. | 160 |
| *Acetic Ether* | 60 to 90 m., or 20 to 40 m. repeated | 50 |
| Acetic Liquid Extracts | | 101 |
| ,, Liquor of Ergot | 10 to 60 m. | 226 |
| Acetocaustin | | 18 |
| Acetone | 60 to 90 m. daily | 58 |
| ,, -Chloroform | 5 to 24 gr. | 113 |
| ,, -Diethylsulphone, *syn.* Sulphonal | | 443 |

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|---|---|---|
| **Aceto-phenone, *syn.* Hypnone** | 1½ to 5 m. | 162 |
| Acetopyrine | 7½ to 15 gr. | 174 |
| **Acet-phenetidin, *syn.* Phenacetin** | 4 to 15 gr. | 171 |
| ***Acetum Cantharidis*, 1 in 10** | | 128 |
| ,, ***Ipecacuanhæ*** | 10 to 30 m. | 304 |
| ,, *Mylabridis* | | xxvii |
| ,, *Scillæ* | 10 to 30 m. | |
| ,, *Urgineæ* | 10 to 30 m. | xxix |
| **Acetyl-benzoyl-aconine** | | 44 |
| Acetyl-para-amido-phenyl-salicylic-ester | 10 to 30 gr. | 38 |
| Acetyl-para-ethoxy-phenyl-urethane | 5 to 15 gr. | 178 |
| Acetyl-para-oxy-phenyl-urethane | 5 to 15 gr. | 170 |
| Acetyl-phenyl-hydrazin | ½ to 3 gr. daily | 168 |
| Achyranthes Aspera | | 474 |
| **Acidulated Brine Test** | | 526 |
| *Acidum Aceticum* | 5 to 15 m. | |
| ,, *Aceticum Dilutum* | ½ to 2 dr. | |
| ,, ***Aceticum Glaciale*** | 2 to 5 m. | |
| ,, **Agaricum** | 1-6 to 1 gr. | 54 |
| ,, **Agaricicum, Agaricinicum** | 1-6 to 1 gr. | 54 |
| ,, ***Arseniosum*** | 1-60 to 1-15 gr. | 81 |
| ,, ***Benzoicum*** | 5 to 15 gr. | 1 |
| ,, ***Boricum*, *syn.* Boracic Acid** | 5 to 15 gr. | 3 |
| ,, Cacodylicum | | 85 |
| ,, Camphoricum | 10 to 20 gr. | 124 |
| ,, **Carbazoticum** | ¼ to 2 gr. | 26 |
| ,, *Carbolicum* | 1 to 3 gr. | 7 |
| ,, *Carbolicum Liquefactum* | 1 to 3 m. | 10 |
| ,, **Carbolicum (Synthetical)** | | 7 |
| ,, Carbonicum | | 474 |
| ,, **Catharticum** | 4 to 8 gr. | 223 |
| ,, Cetraricum | 2 to 4 gr. | 474 |
| ,, **Chloraceticum** | | 17 |
| ,, *Chromicum* | | 18 |
| ,, Chrysophanicum | 1-6 to ½ gr. or more. | 149 |
| ,, Cinnamicum | | 3 |
| ,, *Citricum* | 5 to 20 gr. | |
| ,, Cresoticum | | 39 |
| ,, Cresylicum | | 9 |
| ,, Cubebicum | up to 15 gr. | 213 |
| ,, Di-bromo-gallicum | 5 to 15 gr. | 16 |
| ,, Di-chloraceticum | | 18 |
| ,, Di-Iodo-Salicylicum | 22 to 60 gr. daily | 297 |
| ,, Filicicum | 6 to 15 gr. | 248 |
| ,, *Gallicum* | 5 to 15 gr. | |
| ,, Glycerophosphoricum | | 24 |

| NAME. | DOSE. | PAGE |
|---|---|---|
| *Acidum* Gynocardicum | ½ to 3 gr. | 356 |
| ,, Hippuricum | | 2 |
| ,, Hydrobromicum Concentratum | | 19 |
| ,, ,, *Dilutum* | 15 to 60 m. | 19 |
| ,, *Hydrochloricum* | 2 to 6 m. | |
| ,, *Hydrochloricum Dilutum* | 5 to 20 m. | |
| ,, *Hydrocyanicum Dilutum* | 2 to 6 m. | |
| ,, Hydrocyanicum (Scheele) B.P.C. | 1 to 3 m. | xxxi |
| ,, Hydrofluoricum Dilutum | 5 to 20 m. | 20 |
| ,, ,, Purum | | 19 |
| ,, Hypophosphorosum | 2 to 5 m. | 382 |
| ,, Iodo-Salicylicum | | 297 |
| ,, *Lacticum* | 5 to 20 m. | 20 |
| ,, Lacticum Dilutum | 30 to 120 m. | 21 |
| ,, Laricicum | 1-6 to 1 gr. | 54 |
| ,, Monochloraceticum | | 17 |
| ,, *Nitricum* | 1 to 4 m. | 22 |
| ,, *Nitricum Dilutum* | 5 to 20 m. | 22 |
| ,, ,, *Fumans* | | 22 |
| ,, *Nitrohydrochloricum Dilutum* | 5 to 20 m. | |
| ,, *Oleicum* | | 351 |
| ,, Osmicum, sol. 1 per cent. | 2 to 10 m. daily | 23 |
| ,, Paracresoticum | | 39 |
| ,, Phenicum | 1 to 3 gr. | 7 |
| ,, *Phosphoricum Concentratum* | 1 to 4 m. | 23 |
| ,, *Phosphoricum Dilutum* | 5 to 20 m. | 24 |
| ,, *Picricum* | ¼ to 2 gr. | 26 |
| ,, Pyrogallicum | ½ to 1½ gr. | 27 |
| ,, Quinicum | 4 to 8 gr. | 412 |
| ,, *Salicylicum* | 5 to 20 gr. or more. | 29 |
| ,, ,, "Physiologically Pure" | | 29 |
| ,, Salicyl-sulphonicum | | 527, 528 |
| ,, Scleroticum | ½ to ¾ gr. | 227 |
| ,, Sozolicum | | 15 |
| ,, Sulphanilicum | 5 to 10 gr. | 163 |
| ,, Sulphocarbolicum | | 15 |
| ,, *Sulphuricum* | 1 to 2 m. | 40 |
| ,, *Sulphuricum Aromaticum* | 5 to 20 m. | 40 |
| ,, *Sulphuricum Dilutum* | 5 to 20 m. | 41 |
| ,, ,, Fumans or Nordhausen | | 41 |
| ,, *Sulphurosum* | 30 to 60 m. | 41 |
| ,, *Tannicum* | 2 to 5 gr. | 43 |
| ,, *Tartaricum* | 5 to 20 gr. | |
| ,, Trichloraceticum | | 17, 527, 528 |
| ,, Trichlorphenicum | | 17 |
| ,, Trinitrophenicum | ¼ to 2 gr. | 26 |

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|---|---|---|
| Acoïn | | 192 |
| Aconine | | 45 |
| *Aconite Leaves and Root* | | 44 |
| *Aconitina* | 1-240 to 1-60 gr. | 44 |
| Aconitinæ Oleatum, 1 to 50 | | 46 |
| *Aconitine* | 1-240 to 1-60 gr. | 44 |
| Aconitum Ferox | | 474 |
| ,, Fischeri | | 474 |
| ,, Heterophyllum | 5 to 20 gr. | 475 |
| ,, Japonicum | | 474 |
| ,, Lycoctonum | | 474 |
| ,, *Napellus* | | 44 |
| *Actæa Racemosa* | | 153 |
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| ,, ,, *Hydrosus* | | 316 |
| Adepsine and Adepsine Oil | | 369, 370 |
| *Adhatoda* | | xxiv |
| Adonidin | ¼ to ½ gr. | 475 |
| Adonis Vernalis | 3 to 6 gr. | 475 |
| Adrenalin | | 521 |
| Æsculin | | 481 |
| Æsculus Hippocastanum | | 475 |
| *Æther* | 40 to 60 m., or 10 to 30 m. repeated | 47 |
| ,, *Aceticus* | 60 to 90 m., or 20 to 40 m. repeated | 50 |
| ,, Phosphoratus | 1 to 10 m. | 378 |
| ,, pro Narcosi | | 48 |
| ,, *Purificatus* | 10 to 30 m. | 48 |
| ,, *Sulphuricus* | 40 to 60 m., or 10 to 30 m. repeated | 47 |
| Æthol | | 475 |
| Æthyl Bromidum | | 60 |
| ,, Chloridum | | 51 |
| ,, Iodidum | | 53 |
| ,, Nitris | | 50 |
| Æthyleni Bromidum | 1 to 2 m. | 51 |
| Agar-Agar | | 475 |
| Agaric Acid | 1-6 to 1 gr. | 54 |
| Agaricic, Agaricinic, *syn.* Agaric Acid | | 54 |
| Agaricin, *syn.* Acidum Agaricum | 1-6 to 1 gr. | 54 |
| Agaricus Albus | 10 to 30 gr. | 53 |
| ,, Muscarius | | 482 |
| Agathin | 4 to 8 gr. | 38 |
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| ,, *Ethylic* | | 54 |
| Alcohol, Methylic | 30 to 60 m. | 58 |
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| Algaroth, Powder of | | 74 |
| Alkaloids of Cinchona | | 154 |
| Allium | ½ to 2 dr. | 475 |
| Allyl Alcohol | | 57 |
| Allyl-thio-urea, *syn.* Allyl-sulpho-carbamide | | 429 |
| *Aloe Barbadensis*, and *Socotrina* | 2 to 5 gr. | 62 |
| ,, Hepatic | 2 to 5 gr. | 62 |
| *Aloin* | ½ to 2 gr. | 65 |
| Alphol | 8 to 30 gr. | 339 |
| *Alstonia Constricta* | xxiv. | 475 |
| ,, *Scholaris* | xxiv. | 476 |
| Alstonine | | 475 |
| Althein | 1 to 2 gr. | 87 |
| *Alum, Ammonium* | 5 to 10 gr. | |
| ,, Iron | 3 to 10 gr. | 248 |
| ,, *Potassium* | 5 to 10 gr. | |
| Aluminii Acetas | | 66 |
| ,, Chloridum | 2 to 4 gr. | 67 |
| ,, Gallas (basic) | | 68 |
| ,, Oleas | | 352 |
| ,, Salicylas | | 68 |
| ,, Tannas | | 68 |
| Alumnol | | 67 |
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| American Indian Hemp | | 75 |
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|---|---|---|
| Aminoform | 5 to 15 gr. | 399 |
| Aminol | ½ oz. | 462 |
| *Ammoniacum* | 5 to 15 gr. | |
| *Ammonii Benzoas* | 5 to 15 gr. | 2 |
| ,, Bicarbonas | 3 to 10 gr. | 68 |
| ,, *Bromidum* | 5 to 30 gr. | 68 |
| ,, Carbazotas | 1-8 to 1½ gr. | 26 |
| ,, *Carbonas* | 3 to 10 gr. | |
| ,, *Chloridum* | 5 to 20 gr. | 68 |
| ,, Fluoridum | 1-24 to 1-8 gr. | 20 |
| ,, Hypophosphis | 1 to 6 gr. | 383 |
| ,, Iodidum | 3 to 20 gr. | 69 |
| ,, Nitras | | 69 |
| ,, Persulphas | | 435 |
| ,, *Phosphas* | 5 to 20 gr. | |
| ,, Picras | 1-8 to 1½ gr. | 27 |
| ,, Salicylas | 5 to 30 gr. | 33 |
| ,, Sulpho-ichthyolas | 10 to 30 gr. daily | 286 |
| ,, Valerianas | 1 to 8 gr. | 69 |
| Ammonio-Ferric Alum | 3 to 10 gr. | 248 |
| Ammonol | 5 gr. or more | 161 |
| Amygdophenin | 8 to 15 gr. | 163 |
| Amykos | | 6 |
| Amyl Colloid | | 197 |
| ,, Hydride | | 197 |
| ,, *Nitris* | ½ to 1 m. by mouth<br>2 to 5 m. inhaled | 71 |
| ,, Salicylate | | 31 |
| Amylene | | 73 |
| Amylene-Chloral | | 74 |
| Amyleni Hydras | 30 to 80 m. | 73 |
| Amyli Bromidum | | 168 |
| ,, Iodidum | ½ to 4 drs. | 302 |
| Amyloform | | 61 |
| Anacardium Occidentale | | 476 |
| ,, Officinarum | | 476 |
| Analgene | 15 gr. | 162 |
| Analgesine, *syn.* Antipyrine | 5 to 20 gr. | 172 |
| Analytical Memoranda | | 525 |
| Anarcotine | 1 to 3 gr. | 343 |
| Anaspaline | | 316 |
| Anderjow | | 481 |
| Andira Inermis | 20 to 30 gr. | 479 |
| *Andrographis* | | xxiv. 476, 480 |
| Anemonin | 1-60 to 1-12 gr. | 408 |
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| Anhydroglycochloral | 3 to 10 gr. | 140 |
| Aniline | | 163 |
| ,, Colours | | 546 |
| ,, Hydrochloride | | 546 |
| ,, Sulphate | ½ to 3 gr. | 163 |
| Anilipyrin | 8 to 15 gr. | 174 |
| Animal Glands and Tissues | | 515 |
| ,, Organotherapy | | 515 |
| Anodyne Colloid | | 197 |
| ,, Vesicant | | 128 |
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| Anthrax Antitoxin | | 490 |
| Anti alcoholic Serum | | 490 |
| Antiarin | | 476 |
| Antiaris Toxicaria | | 476 |
| Antidiphtheric, Serum | | 491 |
| Antidotum Arsenici | ½-oz. every 5 or 10 minutes | 82 |
| *Antifebrin, syn. Acetanilidum* | 1 to 3 gr. | 160 |
| Anti-ethyline | | 490 |
| Antifungin | | 7 |
| Antimonii Chloridum | | 74 |
| ,, *Oxidum* | 1 to 2 gr. | |
| *Antimonium Sulphuratum* | 1 to 2 gr. | |
| ,, *Tartaratum* | Diaphoretic, 1-24 to 1-8 gr.<br>Depressent, 1-6 to ½ gr.<br>Emetic ...... 1 to 2 gr. | |
| Antinervin | | 161 |
| Antinosin | 3 to 8 gr. | 298 |
| Antipyonin | | 4 |
| *Antipyrine, syn. Phenazonum* | 5 to 20 gr. | 172 |
| Antipyrin Caffeino-citricum | 8 to 15 gr. | 117 |
| ,, Granular Effervescent | 1 dr. or more | 173 |
| Antipyrine Tannate | 24 to 48 gr. | 174 |
| Antisepsin | 3 to 15 gr. | 162 |
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| ,, Ozonic Ointment | | 279 |
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| Antispasmin | 1-6 to 1½ gr. | 343 |
| Antithermin | 3 to 8 gr. | 164 |

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| Antitoxin, Anthrax | | 490 |
| ,, Diphtheria | | 491 |
| ,, Rabies | | 498 |
| ,, Streptococcus | | 501 |
| ,, Tetanus | | 504 |
| ,, Typhoid | | 511 |
| Antitoxine... | 5 to 15 gr. | 162 |
| Antitoxins... | | 488 |
| Antitussin ... | | 20 |
| Antivenene, Anti-venom | | 502 |
| Antrophores | | 178 |
| Anusol | | 103 |
| Anytin | | 289 |
| Anytols | | 289 |
| Apiol | 3 to 6 m. | 75 |
| Apocodeinæ Hydrochloridum | 1-10 to 1 gr. | 78 |
| Apocynin (Extractive) | ½ to 1 gr. | 75 |
| Apocynum | | 75 |
| Apolysin | 8 to 30 gr. | 164 |
| *Apomorphinæ Hydrochloridum* | 1-16 to ¼ gr. by mouth<br>1-25 to 1-6 hypoderm. | 76 |
| *Aqua Anethi* | ½ to 2 oz. | |
| ,, *Anisi* | ½ to 1 oz. | |
| ,, *Aurantii Floris* | ½ to 2 dr. | 95 |
| ,, Bromoformi | 1 to 4 oz. | 110 |
| ,, *Camphoræ* | ½ to 2 oz. | 123 |
| ,, *Carui* | ½ to 2 oz. | |
| ,, *Chloroformi* | ½ to 2 oz. | 147 |
| ,, *Cinnamomi* | 2 dr. to 1 oz. | |
| ,, Cresolica | | 160 |
| ,, *Fœniculi* | ½ to 2 oz. | |
| ,, Hydrogenii Dioxidi | ½ to 2 dr. | 277 |
| ,, Kresolica | | 9 |
| ,, *Laurocerasi* | ½ to 2 dr. | |
| ,, Mellis | | 67 |
| ,, *Menthæ Piperitæ* | ½ to 2 oz. | |
| ,, *Menthæ Viridis* | ½ to 2 oz. | |
| ,, Picis | 5 to 10 oz. | 401 |
| ,, *Pimentæ* | ½ to 2 oz. | |
| ,, *Rosæ* | 1 to 2 oz. | 359 |
| ,, Sedativa | | 123 |
| *Araroba* | | 151 |
| Arbor Vitæ | | 457 |
| Arbutin | 5 to 15 gr. | 476 |
| Areca | 1 to 4 dr. | 476 |
| Arecoline and Hydrobromide | | 478 |

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|---|---|---|
| Argentamine | | 80 |
| Argentic Hair Dye | | 79 |
| Argenti Citras | | 78 |
| ,, Lactas | | 78 |
| ,, *Nitras* | ¼ to ½ gr. | 78 |
| ,, ,, *Induratus* | | 79 |
| ,, ,, *Mitigatus* | | 79 |
| ,, *Oxidum* | ½ to 2 gr. | |
| Argentum | | 78 |
| Argonin | | 80 |
| Ari Succus | 1 dr. | 486 |
| Aristol | | 294 |
| *Aristolochia* | | xxv |
| *Arnicæ Flores* | | xxv |
| Aronson's Serum | | 492 |
| Arsen-Hæmol | 1½ gr. | 480 |
| *Arsenic, White* | 1-60 to 1-15 gr. | 81 |
| ,, Antidote to | ½-oz. every 5 or 10 minutes | 82 |
| Arsenical Cigarettes | | 85 |
| ,, Paste | | 84 |
| ,, Powder | | 84 |
| *Arsenii Iodidum* | 1-20 to 1-5 gr. | 84 |
| *Arsenious Acid* | 1-60 to 1-15 gr. | 81 |
| Arsenium | | 81 |
| Arum Maculatum | | 486 |
| *Asafetida* | 5 to 15 gr. | |
| Asaprol (Abrastol) | 10 to 30 gr. | 340 |
| Asclepias Cornuti | | 477 |
| ,, Incarnata | | 477 |
| ,, Syriaca | | 477 |
| ,, Tuberosa | | 477 |
| Aseptic Wax | | 33 |
| Aseptin Amykos | | 6 |
| Aseptol | | 15 |
| Aseptoline | | 310 |
| Asparagin | 1 to 2 gr. | 87 |
| Aspidospermine | | 409 |
| ,, Sulphate | | 410 |
| Aspirin | 10 to 15 gr. | 35 |
| Asthma Pastilles and Powders | | 406 |
| Atis Root | | 475 |
| *Atropina* | 1-200 to 1-100 or 1-16 gr. | 87 |
| Atropinæ Oleatum, 1 to 40 | | 90 |
| ,, Salicylas | 1-120 to 1-40 or 1-16 gr. | 89 |
| ,, *Sulphas* | 1-200 to 1-10 or 1-16 gr. | 89 |
| ,, Valerianas | 1-120 to 1-40 or 1-16 gr. | 89 |

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|---|---|---|
| *Atropine* ... ... ... | ... 1-200 to 1-100 or 1-16 gr. | 87 |
| Atroscine ... ... ... ... ... ... ... ... | | 282 |
| Auramine (Yellow Pyoktanin) ... ... ... ... | | 177 |
| Aurantii Cortex ... ... ... ... ... ... ... | | 98 |
| *Aurantii Cortex Indicus* ... ... ... ... ... | | xxv |
| Aurantium ... ... ... ... ... ... ... | | [illegible] |
| Auri Bromidum ... ... ... ... | 1-60 to 1-5 gr. | 96 |
| ,, et Potassii Bromidum ... ... | ...1-6 to 2-3 gr. | 97 |
| ,, et Sodii Chloridum ... ... | 1-30 to ½ gr. | 97 |
| Autosprays ... ... ... ... ... ... ... | | [illegible] |
| *Azadirachta Indica* ... ... | | [illegible] |
| *Bael Fruit* .. ... ... ... | | xxv |
| Bacteriological Examination ... ... ... ... ... | | [illegible] |
| Balls of Absorbent Wool ... ... ... ... ... | | [illegible] |
| Balneum Picis Carbonis ... ... | | [illegible] |
| Balsamum Gurjunae ... ... ... | .. ½ to 2 dr. | 97 |
| ,, *Peruvianum* ... ... ... | ... 5 to 15 m. | |
| ,, *Tolutanum* ... ... ... | ... 5 to 15 gr. | |
| Bandages ... ... ... ... ... ... ... ... | | [illegible] |
| ,, Silicated ... ... ... ... ... ... | | 435 |
| Bapkins of Wood Wool .. ... ... ... ... ... | | 396 |
| Baptisin ... ... ... ... ... | 1 to 5 gr. | 98 |
| Barbaloin ... ... ... ... ... | ½ to 2 gr. | 65 |
| Barium Chloratum, P.G. (Chloride) ... | [illegible] to 1 gr. | 121 |
| ,, Sulphide ... ... ... ... ... ... | | 121 |
| Bassorin Paste ... ... ... | | [illegible] |
| Bay Rum ... ... ... ... | | [illegible] |
| Bebeeru Bark ... ... ... ... ... | | 98 |
| Beberine Hydrochloride ... ... | .. 1 to 10 gr. | 98 |
| ,, Sulphate ... ... ... | 1 to 10 gr. | 98 |
| Beech Tar ... ... ... ... | | [illegible] |
| Beef, Essence of ... ... | | [illegible] |
| ,, Peptonised, Jelly of ... ... ... ... ... | | 365 |
| ,, Tea, Concentrated ... ... ... ... ... | | 235 |
| Behring's Serum ... | | [illegible] |
| *Bengal Fruits* . | | [illegible] |
| *Belladonna Leaves* ... ... ... | ... 1 to 5 gr. | 99 |
| ,, *Root* ... ... ... | 1 to 5 gr. | 99 |
| Belladonnine ... ... ... | | 88 |
| *Bengal Kino* ... ... ... ... | | [illegible] |
| Benger's Liquor Pancreaticus ... | 1 to 2 dr. | 366 |
| ,, ,, Pepticus ... ... | .. 1 to 2 dr. | 374 |
| Benzanalgene ... ... ... ... | ... 5 to 15 gr. | 162 |
| Benzanilide ... ... ... ... | ... 3 to 12 gr. | 164 |
| Benzene ... ... ... | 5 to 10 m. | 164 |
| *Benzoic Acid* ... ... ... ... | ... 5 to 15 gr. | |

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| Benzoic Sulphinide, *syn.* Saccharin | | 429 |
| *Benzol* | 5 to 10 m. | 164 |
| Benzonaphthol | 4 to 10 gr. | 334 |
| Benzosol | 4 to 12 gr. | 210 |
| Benzoyl-Aconine | | 45 |
| ,, -Ecgonine | | 181 |
| ,, -Morphine Hydrochloride | $\frac{1}{5}$ to $\frac{1}{2}$ gr. | 338 |
| ,, -Naphthol | 4 to 10 gr. | 339 |
| ,, -Pseudo-Tropeine | | 191 |
| ,, -Sulphonic-Imide, *syn.* Saccharin | | 424 |
| Berberinæ Carbonas | 2 to 5 gr. | 277 |
| ,, Hydrochloridum | | 277 |
| *Berberis* | | xxv, 277 |
| *Beta-Naphthol* | 3 to 10 gr. | 338 |
| *Betel* | | xxv |
| ,, Nut | | 476 |
| Betol | 3 to 8 gr. | 341 |
| Bikh | | 474 |
| Bile Test | | 529 |
| Billroth's Chloroform Mixture | | 116 |
| Birch Tar | | 402 |
| Bish | | 474 |
| Bismal | 1 to 5 gr. | 107 |
| Bismuth | | 102 |
| Bismuthi Benzoas | 5 to 20 gr. | 102 |
| ,, *Carbonas* | 5 to 20 gr. | 103 |
| ,, et Ammonii Citras | 2 to 5 gr. | 103 |
| ,, Dithio-salicylas | | 106 |
| ,, Iodo-resorcin-sulphonate | | 103 |
| ,, Oleas | | 352 |
| ,, Oxybromidum | 5 to 7 gr. | 104 |
| ,, *Oxidum* | 5 to 20 gr. | 104 |
| ,, Oxycarbonas | 5 to 20 gr. | 103 |
| ,, 'Phosphas' | 3 to 8 gr. | 105 |
| ,, Oxychloridum | 5 to 20 gr. | 104 |
| ,, Oxyiodidum | 5 to 10 gr. | 104 |
| ,, Oxyiodogallas | | 106 |
| ,, *Oxysalicylas* | 5 to 20 gr. | 105 |
| ,, *Salicylas* | 5 to 20 gr. | 105 |
| ,, et Cerii Salicylas | 5 to 20 gr. | 105 |
| ,, Subgallas | | 107 |
| ,, *Subnitras* | 5 to 20 gr. | 106 |
| ,, Sulphis | 5 to 30 gr. | 106 |
| ,, Sulphocarbolas | 4 to 8 gr. | 105 |
| Black Alder | | 422 |
| ,, *Catechu* | 5 to 15 gr. | xxvi |

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| Black Cohosh ... ... ... ... ... ... ... | | 153 |
| ,, *Sassafras Bark* ... ... ... ... ... ... | | xxvii |
| ,, Snakeroot ... ... ... ... ... ... | | 153 |
| Bladder Wrack ... ... ... ... ... ... ... | | 249 |
| Blatta Orientalis... ... ... ... ... | 2 to 8 gr. | 477 |
| *Blaud's Pill, syn. Pil. Ferri* ... ... ... ... ... | | 238 |
| Blepharis Capensis ... ... ... ... ... ... | | 177 |
| Bliss' Cure ... ... ... ... ... ... ... | | 406 |
| *Blistering Liquid* ... ... ... ... ... ... | | 129 |
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| ,, Desiccated ... ... ... ... ... ... | | 236 |
| ,, Preparations ... ... ... ... ... ... | | 236 |
| ,, Test ... ... ... ... ... ... ... | | 529 |
| ,, Root ... ... ... ... ... ... ... | | 126 |
| Blue Gum Tree ... ... ... ... ... ... ... | | 230 |
| Bogbean ... ... ... ... ... ... ... ... | | 482 |
| Bog-Moss ... ... ... ... ... ... ... ... | | 140 |
| Boldin ... ... ... ... ... ... ... ... | | 477 |
| Boldoa Fragrans ... ... ... ... ... ... ... | | 477 |
| Boletus Laricis ... ... ... ... | 10 to 30 gr. | 53 |
| Bolus Alba ... ... ... ... ... ... ... | | 314 |
| Bonducella ... ... ... ... ... ... ... | | 477 |
| Bonduc Seeds ... ... ... ... | 10 to 15 gr. | 477 |
| Bonducin ... ... ... ... ... ... | 1½ to 3 gr. | 477 |
| Bone Marrow Extract, Red ... ... ... ... ... | | 515 |
| *Boracic Acid* ... ... ... ... ... | 5 to 15 gr. | 3 |
| Boracite ... ... ... ... ... ... ... ... | | 7 |
| *Borax* ... ... ... ... ... ... | 5 to 20 gr. | |
| *Boric Acid* ... ... ... ... ... | 5 to 15 gr. | 3 |
| Boroglyceride ... ... ... ... ... ... ... | | 4 |
| Borsyl ... ... ... ... ... ... ... ... | | 175 |
| *Botany Bay Kino* ... ... ... ... ... | | xxvii, 233 |
| Bougies, Nasal, see Buginaria | | |
| ,, Urethral, Elastic, Gelatin (dip in warm water) :— | | |
| Belladonna, Alc. Ext., 1½ gr. | | |
| Ext. Krameriæ, 1 gr. | | |
| Tannic Acid, 1 gr. | | |
| Thalline, 1 gr. and 2 gr. ... ... ... ... ... | | 178 |
| Zinc Acetate, ½ gr. and 1 gr. | | |
| Zinc Chloride, ¼ gr.<br>Belladonna, Alc. Ext. 1 gr. | | |
| Zinc Sulphate, ½ gr. and 1 gr. | | |
| Zinc Sulphate, ½ gr.<br>Belladonna, Alc. Ext., 1 gr. | | |
| Zinc Sulphate, 1 gr.<br>Belladonna, Alc. Ext., 1 gr. | | |
| Zinc Sulphate, 1 gr.<br>Ext. Opium, 1 gr. | | |
| Zinc Sulphocarbolate, ½ gr. | | |

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| Bougies Urethral, with Cacao Butter (lip in Catheter Oil) :— | | |
| Belladonna, Ext. Root, ¼ gr. | | |
| Betol | | 342 |
| Bismuth Oxychloride, 10 gr. | | |
| Cocaina | ½ gr. | 181 |
| Eucalyptus Oil, 10 m. | | |
| Iodoform, 5 gr. | | |
| Iodoform, 5 grs. }<br>Eucalyptus Oil, 10 m. } | | 292 |
| Lead Acetate, ½ gr., ¾ gr., and 1 gr. | | |
| Tannic Acid, 1 gr. | | |
| Zinc Chloride, ¼ gr. and ½ gr. | | |
| Zinc Sulphate, ½ gr. and 1 gr. | | |
| Bow's Liniment | | 362 |
| Brain Extract | | 516 |
| Branalcane | | 4 |
| Brine Test, Acidulated | | 528 |
| Bromal Hydrate | 2 to 5 gr. | 108 |
| Bromalin, Bromethylformine | 10 to 30 gr. | 109 |
| Brom-eigon | | 295 |
| *Bromide of Ammonium* | 5 to 30 gr. | 68 |
| ,, of Ethyl | | 50 |
| ,, of Ethylene | 1 to 2 m. | 51 |
| ,, of Iron | 3 to 10 gr. | 237 |
| ,, of Lithium | 5 to 15 gr. | 319 |
| ,, *of Potassium* | 5 to 30 gr. | |
| ,, Rubidium | 5 to 30 gr. | 423 |
| ,, *of Sodium* | 5 to 30 gr. | 430 |
| ,, Strontium | 5 to 30 gr. | 441 |
| ,, of Zinc | 3 to 10 gr. | 468 |
| ,, Hydrogen | | 19 |
| Bromidia | ½ to 1 dr. | 138 |
| Bromine, tubes of | | 108 |
| Brominol, Brominoleum | 10 to 60 gr. | 109 |
| Bromipin | | 109 |
| Bromoform | ½ to 2 m. | 110 |
| Bromo-Hæmol | 30 gr. | 480 |
| Bromol | ½ to 2 gr. | 16 |
| Bromum | | 108 |
| Bronchial Glands | | 515 |
| Brown's Bronchial Troche | | 213 |
| Brucine | 1-12 to ½ gr. | 111 |
| Bryonia | | 111 |
| Buginaria.—Nasal Bougies, Elastic Gelatin, $3\frac{3}{16}$ in. long. | | |
| Buginarium Acidi Carbolici | ½ gr. | |
| ,, Cocainæ Hydrochloridi | 1-6 gr. | 184 |
| ,, Cupri Sulphatis | 1-10 gr. and 1-6 gr. | |

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|---|---|---|
| Buginarium Iodoformi | 1-6 gr. and ½ gr. | 291 |
| ,, Zinci Sulphatis | 1-10 gr. | |
| Bulbocapnine | | 478 |
| Bullocks, Dried Blood of | | 236 |
| Burnett's Disinfecting Fluid | | 469 |
| Butcher's Broom Tar | | 402 |
| *Buteæ Gummi* | | xxv |
| ,, *Semina* | | xxv |
| Butter of Antimony | | 74 |
| *Butyl-Chloral Hydras* | 5 to 20 gr. | 112 |
| Byne | | 321 |
| Bynin | 1 to 4 dr. | 322 |
| Cabbage Tree | | 479 |
| Cachets | | 394 |
| Cactina Pillets | | 477 |
| Cacodyle | | 85 |
| Cacodyliacol | ½ to 2 gr. | 85, 211 |
| Cactus Grandiflorus | | 477 |
| Cæsalpinia Bonducella | | 477 |
| *Caffeina* | 1 to 5 gr. | 113 |
| ,, Citrata | 2 to 10 gr. | 114 |
| Caffeinæ Ammonio-Citras | 1 to 10 gr. | 115 |
| ,, *Citras* | 2 to 10 gr. | 114 |
| ,, ,, *Effervescens* | 1 to 2 dr. | 114 |
| Caffeinæ Citras cum Potassii Bromido Effervescens | 1 to 2 dr. | 114 |
| ,, Di-iodo-hydriodidum | 2 to 4 gr. | 115 |
| ,, Hydrobromidum | ½ to 5 gr. or more. | 115 |
| ,, ,, Effervescens | 1 dr. or more. | 115 |
| ,, Hydrochloridum | ½ to 5 gr. or more. | 115 |
| ,, Sodio-Salicylas | 1 to 4 gr. | 115 |
| ,, Sulphas | ½ to 5 gr. | 115 |
| ,, Tri-Bromidum | | 115 |
| ,, Tri-Iodidum | 2 to 4 gr. | 115 |
| ,, Valerianas | ½ to 3 gr. | 116 |
| Caffeine-Chloral | 3 to 8 gr. hypod. | 116 |
| *Calabar Bean* | 1 to 4 gr. | 386 |
| Calamina Præparata | | 315 |
| *Calcii Carbonas Præcipitatus* | 10 to 60 gr. | |
| ,, *Chloridum* | 5 to 15 gr. | 117 |
| ,, Glycerophosphas | 3 to 10 gr. | 24 |
| ,, Hippuras | 5 to 20 gr. | 2 |
| ,, *Hypophosphis* | 3 to 10 gr. | 383 |
| ,, Iodatum | 3 to 4 gr. | 118 |
| ,, Lactas | 1 to 5 gr. | 21 |
| ,, Permanganas | | 325 |

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| *Calcii Phosphas* | 5 to 15 gr. | |
| ,, Saccharas | 8 to 30 gr. | 119 |
| ,, Salicylas | 2 to 20 gr. | 33 |
| ,, Santonas | | 405 |
| ,, Sulphidum | ¼ to 1 gr. | 119 |
| Calcinol, Calcium Iodate | 3 to 4 gr. | 118 |
| Calcium | | 117 |
| ,, Carbide | | 117 |
| ,, Peroxidum | 3 to 9 gr. | 119 |
| Calendula | | 122 |
| Calf Lymph, Vaccine | | 513 |
| ,, Glycerinated | | 513 |
| *Calisaya Bark* | 10 to 60 gr. | 154 |
| *Calomel* | ½ to 5 gr. | 272 |
| *Calotropis* | | xxv |
| *Calumbæ Radix* | 10 to 20 gr. | |
| *Calx Sulphurata* | ¼ to 1 gr. | 119 |
| *Cambogia* | ½ to 2 gr. | |
| ,, *Indica* | ½ to 2 gr. | xxv |
| Camphine | | 373 |
| Camphoid | | 124 |
| *Camphor* | 2 to 5 gr. | 122 |
| ,, Ball | | 123 |
| ,, Essential Oil of | | 122 |
| ,, Julep, or Mixture | 1 to 2 oz. | |
| *Camphora* | 2 to 5 gr. | 122 |
| ,, Monobromata | 2 to 10 gr. | 125 |
| ,, Salicylata | 1 to 5 gr. | 125 |
| Camphorated Carbolic Acid | | 10 |
| ,, Chalk | | 123 |
| Camphoric Acid | 10 to 20 gr. | 124 |
| Camphoroxol | | 279 |
| Camphylene | | 342 |
| Canadian Hemp | | 75 |
| Cancer Fluid, Coley's | | 499 |
| *Cannabis Indica* | | 126 |
| Cannabin Tannas | 2 to 10 gr. | 127 |
| Cannabinol | | 127 |
| Cannabinon | ¼ to 1 gr. | 127 |
| Cantharidate of Potassium | 1-400 to 1-200 gr. hypod. | 129 |
| ,, ,, Liebreich's Solution of | | 130 |
| *Cantharides* | | 128 |
| Cantharidin | | 128 |
| *Cantharis* | 1-16 to ½ gr. | 128 |
| Canton's Phosphorus | | 119 |
| *Caoutchouc, Liquor* | | 428 |

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| Capparis Coriacea | | | 485 |
| Capsicin | | 1-8 to ¼ gr. | 130 |
| *Capsicum Fruit* | | ½ to 1 gr. | 130 |
| Capsule, Supra-renal, Extract | | | 520 |
| Capsules, Empty Gelatin | | | 394 |
| ,, | of Ammonium-Ichthyol, 4 gr. | | 287 |
| ,, | of Amyl Nitrite (Glass), 1, 2,3, and 5 m. | | 72 |
| ,, | of Amylene Hydrate, 10 m. | | 74 |
| ,, | of Bromine (Glass), 1, 2·2, and 4 Cc. | | 108 |
| ,, | of Brominol, 2 gm. | | 110 |
| ,, | of Bromoform, ½ m. | | 110 |
| ,, | of Carbolic Acid (Glass), 60 m. | | 11 |
| ,, | of Cascara Sagrada | 1 or 2 | 133 |
| ,, | ,, and Euonymin | | 133 |
| ,, | of Castor Oil, ½ and 1 dr. | | 358 |
| ,, | ,, ,, Compound | 1 or 2 | 358 |
| ,, | of Chloroform, 10 m. | | 145 |
| ,, | of Cod Liver Oil, ½ and 1 dr. | | 357 |
| ,, | ,, ,, Phosphorated | | 379 |
| ,, | of Colchicine Salicylate | | 197 |
| ,, | of Copaiba, 15 m. | | |
| ,, | of Creosote, 3 and 5 m. | | 205 |
| ,, | of Dormiol, 7½ m. | | 74 |
| ,, | of Ether (Glass), 30 m. | | 48 |
| ,, | of Ethyl Bromide (Glass), 5 m. | | 51 |
| ,, | of Ethylene Bromide, 1 m. | | 51 |
| ,, | of Ethyl Chloride (Glass), 30 grammes | | 52 |
| ,, | ,, Iodide (Glass), 5 m. | | 53 |
| ,, | ,, Iodide and Chloroform (Glass) | | 53 |
| ,, | of Ext. Filicis liq., 15 m. | 1 to 4 | 249 |
| ,, | of Fehling's Solution (Glass), 1 Cc. | | 533 |
| ,, | of Guaiacol, 5 m. | | 209 |
| ,, | of Hypnone, ¾ m. | | 162 |
| ,, | of Ichthyol, 4 gr. | | 287 |
| ,, | of Iodipin, 2 gm. | | 300 |
| ,, | of Isobutyl Nitrite, 3 m. | | 7 |
| ,, | of Jatropha Oil, 10 m. | | 481 |
| ,, | of Lithium-Ichthyol, 4 gr. | | 287 |
| ,, | of { β-Naphthol, 2 gr.<br>Bismuth Salicylate, 1 gr. } | | |
| ,, | of Oil of Gaultheria, 10 m. | | 31 |
| ,, | ,, Erigeron, 5 m. | | 47 |
| ,, | ,, Male Fern, 15 m. | | 249 |
| ,, | ,, Turpentine, 5 m. | 1 or more | 395 |
| ,, | of Paraldehyde, 40 m. | | 5 |
| ,, | of Phosphorated Cod Liver Oil | ½ and 1 dr. | 37 |

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| Cocainæ Perbromidum | 1-20 to ½ gr. | 182 |
| ,, Periodidum | 1-20 to ½ gr. | 182 |
| ,, Phenas | 1-20 to ½ gr. | 185 |
| ,, Salicylas | 1-20 to ½ gr. | 185 |
| ,, Sulphas | 1-20 to ½ gr. | 186 |
| *Cocaine* | 1-20 to ½ gr. | 180 |
| Cocculus Indicus | | 389 |
| Cockroach | | 477 |
| Cocoa | | 455 |
| *Cod Liver Oil* | 1 to 4 dr. | 357 |
| ,, ,, ,, Emulsion | 2 to 8 dr. | 357 |
| ,, ,, ,, ,, with Glycerophosphates | 2 to 8 dr. | 26 |
| ,, ,, ,, ,, ,, Hypophosphites | 2 to 8 dr. | 357 |
| ,, ,, ,, Phosphorated | 1 to 4 dr. | 378 |
| *Codeina* | ¼ to 2 gr. | 194 |
| Codeine and Glycerin Jelly | 1 dr. | 195 |
| Codeinum Hydrochloricum | ¼ to 2 gr. | 195 |
| *Codeinæ Phosphas* | ¼ to 2 gr. | 195 |
| Coffeinum Natrio-Benzoicum | up to 15 gr. | 115 |
| Cohosh, Black | | 153 |
| ,, Blue | | 135 |
| *Colchici Cormus* | 2 to 5 gr. | |
| Colchicine | 1-32 to 1-16 gr. | 197 |
| ,, Salicylate, Capsules of | | 197 |
| Cold Cream | | 359 |
| Coley's Cancer Fluid | | 499 |
| Collargol | | 80 |
| Collemplastrum Adhesivum | | 32 |
| ,, Salicylicum | | 32 |
| Collinsonia Canadensis | | 478 |
| Collodion | | 197 |
| *Collodium* | | 197 |
| ,, Belladonnæ | | 89 |
| ,, Callosum | | 199 |
| ,, Cocainæ, 2 per cent. | | 181 |
| ,, cum Oleo Crotonis, 1 in 8 | | 198 |
| ,, *Flexile* | | 198 |
| ,, Ichthyol | | 287 |
| ,, Iodi, 30 gr. in 1 oz. | | 198 |
| ,, cum Iodoformo, 1 in 12 | | 291 |
| ,, Iodol | | 296 |
| ,, Paraformi | | 62 |
| ,, Peruvianum | | 199 |
| ,, Salicylicum | | 199 |
| ,, ,, et Lacticum | | 199 |

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| *Collodium* Salicylicum et Hydrarg. Perchlor. ... ... | | 199 |
| ,, ,, cum Zinci Chlorido... ... ... | | 199 |
| ,, Salol ... ... ... ... ... ... ... | | 38 |
| ,, Stypticum ... ... ... ... ... ... | | 199 |
| ,, *Vesicans* ... ... ... ... ... ... | | 129 |
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| Collunaria.—Nasal Douches :— | | |
| Collunarium Alkalinum Compositum T.H.... ... ... | | 11 |
| ,, **Aluminis, 5 gr. to 1 oz. T.H.** ... ... | | |
| ,, **Potassii Permang., Liq. 6 m. in 1 oz. T.H.** | | |
| Collunarium Quininæ, ½ gr. in 1 oz. T.H.... ... ... | | 417 |
| ,, **Sodii Bicarb., 30 gr. in 1 oz.** ... ... ... | | |
| ,, **Zinci Sulphatis, ½ gr. in 1 oz.** .... ... | | |
| ,, ,, **Sulphocarbolatis, 2 gr. in 1 oz.** ... | | |
| Collyrium Adstringens Luteum ... ... ... ... | | 472 |
| *Colocynthidis Pulpa* ... ... ... ... | 2 to 8 gr. | |
| Compound Anæsthetic Ether .. ... ... ... ... | | 49 |
| ,, **Naphthol Ointment** ... ... ... ... | | 339 |
| Compressed Tablets ... ... ... ... ... ... | | 648 |
| **Concentrated Beef Tea...** ... ... ... ... ... | | 235 |
| Conchinin ... ... ... ... ... ... | 1 to 20 gr. | 411 |
| Condurangin ... ... ... ... ... ... ... | | 200 |
| **Condurango Cortex** ... ... ... ... | 15 to 60 gr. | 200 |
| **Confectio Emblicæ** ... ... ... ... | 1 to 4 dr. | 225 |
| ,, Guaiaci Composita ... ... ... | 1 to 2 dr. | 451 |
| ,, Opii, B.P. 1885 ... ... | 5 to 20 gr. | 361 |
| ,, *Piperis...* ... ... ... | 60 to 120 gr. | |
| ,, **Scammoniæ, B.P. 1888** ... | 10 to 30 gr. | |
| ,, *Sennæ* ... ... ... ... | 60 to 120 gr. | |
| ,, ,, et Sulphuris... ... ... | 1 to 2 dr. | 451 |
| ,, *Sulphuris* ... ... ... | 60 to 120 gr. | 451 |
| ,, Terebinthinæ, B.P.1885 ... | 60 to 120 gr. | |
| Congo Red Paper ... ... ... ... ... ... | | 636 |
| *Conii Folia* .. ... ... ... ... | 2 to 8 gr. | |
| **Conina** ... ... ... ... ... | ¼ gr. increased | 200 |
| Coninæ Hydrobromidum ... ... | 1-3 gr. increased | 200 |
| **Conine, *syn.* Conicine** ... ... ... | ¼ gr. increased | 201 |
| Conquinine ... ... ... ... ... | 1 to 20 gr. | 411 |
| **Convallamarin** ... ... ... ... | ½ to 2 gr. | 202 |
| **Convallaria Majalis** ... ... ... ... ... .. | | 202 |
| Convallarin . ... ... ... | 3 to 4 gr. | 202 |
| Convolvulin ... .. ... . ... | 1 to 5 gr. | 312 |
| *Copaiba* ... ... ... ... | 30 to 60 m | |
| ,, Jelly .. . . . . | | 36 |

| Name. | Dose. | Page |
|---|---|---|
| Corn Ergot | | 482 |
| ,, Silk | | 482 |
| Corns, Collodions for | | 199 |
| Cornus Florida | 20 to 60 gr. | 478 |
| Cornutine | 1-6 gr. daily | 225 |
| ,, Hydrochloride | 1-6 to ¼ gr. daily | 225 |
| Coronilla varia | | 478 |
| Coronilline | | 478 |
| Corydaline | | 478 |
| Corydalis Cava | | 478 |
| Coryl | | 53 |
| Cosaprin | | 172 |
| *Coscinium* | | xxvi |
| Cosmoline | | 370 |
| Coster's Paste | | 301 |
| Cotarnine Hydrochloride | | 344 |
| Coto Cortex | 1 to 8 gr. | 203 |
| Cotoin | ½ to 2 gr. | 203 |
| *Cotton* | | 258 |
| ,, Medicated | | 258 |
| *Couch Grass* | | xxiv, 462 |
| Coumarin | | 204 |
| Cowhage | | 249 |
| Cramp Bark | | 487 |
| Cranesbill Root | | 479 |
| Cream, Cold | | 359 |
| ,, of Mercuro-Zinc Cyanide | | 265 |
| ,, Salicylic | | 32 |
| ,, of Tartar | 20 to 60 gr. or more | |
| ,, Zinc | | 471 |
| Cremor Salicylicus | | 32 |
| ,, Zinci | | 471 |
| Creolin | 1 to 5 gr. | 159 |
| Creosoform | | 208 |
| Creosol | | 204 |
| Creosotal | 5 to 20 gr. | 207 |
| *Creosote* | 1 to 5, increased to 40 m. | 204 |
| ,, Anhydrous | 1 to 10 m. | 204 |
| ,, Carbonate | 5 to 20 gr. | 207 |
| ,, Phosphate | 5 to 20 gr. | 208 |
| ,, Phosphite | | 208 |
| ,, Valerianate | 4 to 12 gr. | 208 |
| *Creosotum* | 1 to 5 m. or more | 204 |
| Cresalol | | 39 |
| Cresol | | 9 |
| ,, Salicylas | 2 to 10 gr. | 39 |

| NAME. | DOSE. | PAGE |
|---|---|---|
| Cresolum Crudum | | 9 |
| Cresotic Acid | | 34 |
| Cresylic Acid | | 9 |
| *Creta Præparata* | 10 to 60 gr. | |
| Creyat | | xxiv |
| Crotalus | | 479 |
| Croton-Chloral Hydrate | 5 to 20 gr. | 112 |
| Crurin | | 106 |
| Cubeb Cigarettes | | 213 |
| *Cubeba* | 30 to 60 gr. | 212 |
| Cubebic Acid | 15 gr. | 213 |
| Cubebin | | 213 |
| Cuca | 30 to 120 gr. | 178 |
| Cucumber Ointment | | 213 |
| Cucumis | | 213 |
| *Cucurbitæ Semina Præparata* | 2 to 4 oz. | xxvi |
| Cudbear | | 26 |
| Cuprea Bark | | 154 |
| Cupreinæ Sulphas | 1 to 5 gr. | 154 |
| Cupri Arsenis | 1-100 to 1-25 gr. | 84 |
| ,, -Aseptol, Cupri sulphocarbolas | | 15 |
| ,, Oleas | | 352 |
| ,, *Sulphas* ¼ to 2 gr. | emetic 5 to 10 gr. | |
| ,, Sulphocarbolas | | 15 |
| Cupric Test Pellets | | 533 |
| Cuprol | | 136 |
| Cuprum Aluminatum | | 67 |
| Curara | 1-20 to ½ gr. | 213 |
| Curarina | (?) 1-400 to 1-40 gr. | 213 |
| Curcas Purgans | | 481 |
| Curdling Ferment | | 364 |
| Cure, Himrod's | | 406 |
| *Cusso* | ¼ to ½ oz. | [illegible] |
| Cymenol | | 477 |
| Cypridol Capsules | 1 or 2 | 266 |
| Cypripedin | 1 to 3 gr. | 215 |
| Daisy Powders | | 161 |
| Damiana | | 215 |
| Darts of Chloride of Zinc | | 469 |
| *Daturæ Folia* | | xxvi |
| ,, *Semina* | | xxvi |
| Daturina | 1-120 to 1-16 gr. | 215 |
| Daturinæ Sulphas | 1-120 to 1-16 gr. | 216 |
| Daturine | 1-120 to 1-16 gr. | 215 |
| Decoctum Acaciæ Corticis | ½ to 2 oz. | [illegible] |
| ,, Achyranthis | 2 oz. | 474 |

| Name. | Dose. | Page |
|---|---|---|
| *Decoctum Agropyri* | ½ to 2 oz. | xxiv |
| ,, *Aloes Compositum* | ½ to 2 oz. | 62 |
| ,, Cetrariæ, B.P. 1885 | *ad lib.* | |
| ,, Cinchonæ, B.P. 1885 | 1 to 2 oz. | 155 |
| ,, *Cissampeli* | ½ to 2 oz. | xxvi |
| ,, Eucalypti Gummi | 2 to 4 dr. | 233 |
| ,, Euphorbiæ Piluliferæ | 2 oz. | 235 |
| ,, Gossypii *Radicis Corticis* | ½ to 2 oz. | xxvi |
| ,, *Granati Radicis*, 1 in 5 | ½ to 2 oz. | |
| ,, *Hæmatoxyli* | ½ to 2 oz. | 261 |
| ,, Hordei, B.P. 1885 | *ad lib.* | |
| ,, *Hygrophilæ* | ½ to 2 oz. | xxvii |
| ,, *Ispaghulæ* | ½ to 2 oz. | xxvii |
| ,, Pareiræ, B.P. 1885 | 1 to 2 oz. | |
| ,, *Sappan* | ½ to 2 oz. | xxix |
| ,, Sarsæ, B.P. 1885 | 2 to 10 oz. | |
| ,, Sarsæ Compositum, B.P. 1885 | 2 to 10 oz. | |
| ,, Scoparii, B.P. 1885 | 2 to 4 oz. | |
| ,, Taraxaci, B P. 1885 | 2 to 4 oz. | |
| ,, Tritici | 2 to 8 oz. | 462 |
| Deelina Oil | | 369 |
| Delphina | ¼ to ½ gr. | 216 |
| Depilatories | | 121 |
| Dermatol | | 107 |
| De Valangin's Mineral Solvent | | 82 |
| Dextroform | | 61 |
| Diabetin | | 123 |
| Diacetyl-tannin | 3 to 8 gr. | 13 |
| Dialysed Iron | 10 to 30 m. | 241 |
| Diapers of Wood Wool | | 396 |
| Diarrhœa Mixtures | | 105 |
| Diastase, Malt | | 321 |
| ,, *syn.* Maltine | | 322 |
| ,, Pancreatic | | 361 |
| Diazo Test for Typhoid, Ehrlich's | | 537 |
| Dibromo-gallic Acid | | 16 |
| Dichloride of Ethidene | | 230 |
| Diethylene-diamine | 4 to 10 gr. | 397 |
| Digitalein (Schmiedeberg) | | 219 |
| Digitalinum Verum (Kiliani) | | 218 |
| Digitaline, Crystallized (Nativelle) Codex | $\frac{1}{250}$ to $\frac{1}{60}$ gr. | 217 |
| ,, Granules (Homolle) | 2 to 4 | 217 |
| ,, Amorphe | 1-60 to 1-15 gr. | 217 |
| Digitalinum Crystallisatum | | 218 |
| ,, Purum | 1-64 to 1-32 gr. | 218 |
| *Digitalis Folia* | ½ to 2 gr. | 216 |

| NAME. | DOSE. | PAGE |
|---|---|---|
| Digitonin | | 218 |
| Digitoxin (Schmiedeberg) | $\frac{1}{250}$ to $\frac{1}{60}$ gr. | 218 |
| Diiododithymol, *syn.* Aristol | | 294 |
| Di-iodoform | | 295 |
| Di-Iodo-Para-Phenol-Sulphonic Acid | | 298 |
| „ -Salicylic Acid | | 297 |
| Dimatos | | 315 |
| Dimethyl-Amido-Azo-benzol | | 537 |
| „ -Ethyl-carbinol | | 73 |
| „ -Ketone | | 58 |
| „ -Piperazine Tartrate | 4 to 10 gr. | 398 |
| Dionin | ¼ to ½ gr. | 337 |
| Discs of Atropine, 1-5000 gr. in each | | 89 |
| Diphtheria Serum and Antitoxin | | 191 |
| „ Pigment for, Löffler's | | 538 |
| Dita Bark | | 476 |
| Ditaine | | 476 |
| Dithion | 3 gr. | 34 |
| Di-thio-salicylate of Sodium | 3 gr. | 34 |
| Di-thymol-iodide | | 294 |
| Diuretin | 5 to 15 gr. | 456 |
| „ Lithium | 5 to 15 gr. | 456 |
| Dogwood | | 478 |
| „ Jamaica | | 400 |
| Dolichos Pubes | | 249 |
| „ Soja | | 155 |
| Donovan's Solution | 5 to 20 m. | 84 |
| Dormiol | | 74 |
| *Dover's Powder (Pulv. Ipec. Co.)* | 5 to 15 gr. | 304 |
| Drosera Rotundifolia | | 479 |
| Duboisina | | 219 |
| Duboisinæ Sulphas | 1-120 to 1-30 gr. | 219 |
| Dulcin | | 426 |
| Duotal | 3 to 8 gr. | 211 |
| Easton's Syrup | ½ to 1 dr. | 246 |
| *Earth Nut Oil* | | xxviii |
| Eau de Cologne | | 57 |
| „ de Goudron | 5 to 10 oz. | 401 |
| „ de Luce | | 71 |
| „ Maiche | ½ oz. diluted | 278 |
| „ Sedative de Raspail | | 123 |
| Effervescent Salts : | | |
| Antipyrine | 1 dr. or more | 173 |
| Bismuth Citrate | „ | |
| Bromine Salts | | 431 |
| *Caffeine Citrate* | 1 or 2 dr. | 114 |

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|---|---|---|
| Caffeine Citrate with Potassium Bromide | 1 or 2 dr. | 114 |
| ,, Hydrobromide | ,, | 115 |
| Carlsbad Salt | 1 dr. or more | |
| Chloro-Sodio-Magnesian Aperient | ,, | 437 |
| Ferro-Magnesian Sulphate | 1 or 2 dr. | 248 |
| Iron Citrate | ,, | |
| Iron and Quinine Citrate | ,, | 412 |
| *Lithium Citrate* | ,, | 319 |
| ,, Salicylate | 1 dr. or more | 320 |
| Magnesium Citrate | 1 or 2 dr. | |
| ,, *Sulphate* | ¼ to 1 oz. | 437 |
| Piperazine | 1 dr. or more | 397 |
| ,, with Phenocoll | ,, | 397 |
| Potassium Citrate | 1 or 2 dr. | |
| Pullna Salt | 1 dr. or more | 437 |
| Salicylic Acid | ,, | 31 |
| Sodio-Magnesian Aperient | ,, | 437 |
| *Sodium Citro-Tartrate* | 1 or 2 dr. | |
| ,, Phosphate | ,, | 434 |
| ,, ,, (*Off.*) | ¼ to ½ oz. | 434 |
| ,, Salicylate | 1 dr. or more | 34 |
| ,, Sulphate | ,, | 436 |
| ,, ,, (*Off.*) | ¼ to ½ oz. | 436 |
| Vichy Salt | 1 dr. or more | |
| Ehrlich's Diazo Test for Typhoid Fever | | 537 |
| Eigons | | 295 |
| Eka-iodoform | | 295 |
| Elæosacchara | | 220 |
| *Elaterinum* | 1-40 to 1-10 gr. | 221 |
| *Elaterium* | 1-10 to ½ gr. | 221 |
| Elecampane | | 481 |
| Elepizone | 1 dr. | 431 |
| Elixir Acidum | 2 to 8 m. | 40 |
| ,, Aletridis | 1 to 2 dr. | |
| ,, Aromaticum | ½ to 2 dr. | 221 |
| ,, Bismuthi | 60 m. | 222 |
| ,, Camphoræ | 30 to 60 m. | 123 |
| ,, Camphoræ Monobromatæ | 4 dr. | 125 |
| ,, Cascara Sagrada | 15 to 120 m. | 133 |
| ,, Chloralamidi | 1 oz. | 139 |
| ,, Cinchonæ | 60 m. | 222 |
| ,, Cocæ | 1 to 4 dr. | 179 |
| ,, Ferri Phosphatis cum Quinina et Strychnina | 1 dr. | 246 |
| ,, Ficorum | 1 to 4 dr. | 224 |
| ,, Glusidi, *syn.* Saccharini | 5 to 20 m. | 425 |
| ,, Glycerophosphatum | 1 to 4 dr. | 25 |

| NAME. | DOSE | PAGE |
|---|---|---|
| Elixir Guaranæ | 30 to 120 m. | 261 |
| ,, Papain | 1 dr. with meals | 367 |
| ,, Paraldehydi | 1 to 3 dr. | 59 |
| ,, Phosphori | 15 to 60 m. | 378 |
| ,, Rhei | 1 to 3 dr. | 222 |
| ,, Rubrum | 20 to 60 m. | 223 |
| ,, Saccharini, 3 gr. in 60 m. | | 425 |
| ,, Sennæ | 1 to 3 dr. | 223 |
| ,, Simplex | 20 to 60 m. | 222 |
| ,, Sodii Cacodylatis | 30 m. | 86 |
| ,, *of Vitriol* | 5 to 20 m. | 40 |
| *Embelia* | 1 to 4 dr. | xxvi |
| Emblic Myrobalans | 1 or 2 | 224 |
| Emblicæ Fructus | 1 or 2 | 224 |
| Emetina (Alkaloid) Expectorant $\frac{1}{200}$ to $\frac{1}{50}$, Emetic $\frac{1}{4}$ to $\frac{1}{3}$ gr. | | 305 |
| Emetin (Extractive) ,, [illegible] to [illegible], ,, $\frac{1}{2}$ to 1 gr. | | 306 |
| Emodin | | 422 |
| Emol | | 315 |
| Emplastrum Aconiti | | 46 |
| ,, Aconiti et Belladonnæ | | 46 |
| ,, *Belladonnæ* | | 99 |
| ,, Belladonnæ Extensum | | 99 |
| ,, ,, Fluidum | | 99 |
| ,, ,, Viride | | 100 |
| ,, *Calefaciens* | | 128 |
| ,, *Cantharidis* | | 129 |
| ,, Capsici | | 130 |
| ,, Cocainæ | | 181 |
| ,, Hamamelidis | | 263 |
| ,, Hydrargyri Stearatis | | 353 |
| ,, *Menthol* | | 327 |
| ,, *Mylabridis* | | xxvii |
| ,, ,, *Calefaciens* | | xxvii |
| ,, *Opii* | | 361 |
| ,, *Plumbi* | | 354 |
| ,, ,, *Iodidi*, 1 in 10 | | |
| ,, Rhois | | 123 |
| ,, Salicylicum | | 32 |
| ,, Scopolæ | | 484 |
| ,, Thapsiæ | | 455 |
| ,, Unguenti Zinci (Unna's) | | 472 |
| ,, Vesicans | | 129 |
| Emulsio Iodoformi | | 291 |
| ,, Olei Morrhuæ | 2 to 8 dr. | 357 |
| ,, ,, et Glycerophosphatum | 2 to 8 dr. | 26 |
| ,, ,, cum Hypophosph. | 2 to 8 dr. | 357 |

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|---|---|---|
| Emulsio Petrolei cum Hypophosph. | 1 to 4 dr. | 372 |
| ,, Salol | ½ to 1 oz. | 37 |
| Emulsion, Pancreatic | 1 to 3 dr. | 366 |
| Emulsive Ferment | | 364 |
| Eosote | 4 to 12 gr. | 208 |
| Ephedrine | | 94 |
| Epicarin, *syn.* Epicarinum purum | | 340 |
| Epinephrin | | 521 |
| *Ergot* | 20 to 60 gr. | 225 |
| ,, of Maize | | 482 |
| *Ergotinum, syn. Extractum Ergotæ* | 2 to 8 gr. | 225 |
| Ergotininæ Citras | 1-150 to 1-30 gr. | 226 |
| Ergotinine | 1-200 to 1-40 gr. | 226 |
| ,, Cristallisée | | 226 |
| Erigeron Canadense | 5 to 30 m. | 479 |
| Eriodictyon Glutinosum | | 487 |
| Erythrite Tetranitrate | | 228 |
| 'Erythrol' | | 102 |
| ,, Nitrate, Tetranitrate | ½ to 1 gr. increased | 228 |
| ,, ,, Tablets | 1 or 2 | 228 |
| Erythrophlœinæ Hydrochloridum | 1-40 to 1-24 gr. | 229 |
| Erythrophlœum | | 229 |
| *Erythroxylum Coca and E. Bolivianum* | 30 to 120 gr. | 178 |
| Esbach's Picric Acid Solution | | 525 |
| Eseridina, Eseridine | 1-32 to 1-16 gr. | 387 |
| Eserina, Eserine | $\frac{1}{100}$ to $\frac{1}{30}$ gr. | 387 |
| Eserinæ Hydrobromidum | 1-60 to 1-20 gr. | 387 |
| ,, Salicylas | 1-60 to 1-20 gr. | 387 |
| ,, Sulphas | 1-60 to 1-20 gr. | 387 |
| Essence of Beef | | 235 |
| ,, of Pancreatine | | 366 |
| ,, of Rennet | | 373 |
| Essentia Anisi, B.P. 1885 | 10 to 20 m. | |
| ,, Menthæ Piperitæ, B.P. 1885 | 10 to 20 m. | |
| *Ether* | 20 to 60 m. | 47 |
| ,, Absolute | | 49 |
| ,, ,, Methylated | | 49 |
| ,, *Acetic* | 60 to 90 m., or 20 to 40 m. repeated | 50 |
| ,, Chloric | | 149 |
| ,, Compound Anæsthetic | | 49 |
| ,, Hydriodic | | 53 |
| ,, Hydrobromic | | 50 |
| ,, Hydrochloric | | 51 |
| ,, Methylated | | 49 |
| ,, Ozonic | ½ to 1 dr. | 279 |
| ,, *Petroleum* | | 198 |

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|---|---|---|
| Ether Phosphorated | 1 to [illegible] | 378 |
| ,, Rectified, from Methylated Spirit | | [illegible] |
| ,, Perles of | 1 to 4 | [illegible] |
| ,, *Sulphuric* | [illegible] | [illegible] |
| Ethereal Tinctures | | [illegible] |
| Ethidene Dichloride | | [illegible] |
| **Ethyl Bromide** | | [illegible] |
| ,, Carbamate | 10 to [illegible] gr. | [illegible] |
| ,, **Chloride** | | [illegible] |
| ,, **Chlorinated Chloride** | | [illegible] |
| ,, **Iodide** | | 53 |
| ,, Nitrite | | 50 |
| ,, ,, *Solution of* | 20 to 60 m. | [illegible] |
| ,, **Oxide** | 10 to 60 m. | 47 |
| *Ethylate of Sodium, Solution of* | | [illegible] |
| Ethylene Bromide | 1 to 2 m. | 51 |
| ,, -diamine-silver Phosphate | | [illegible] |
| ,, -Ethenyl-diamine | | [illegible] |
| ,, Periodide | | [illegible] |
| Ethylenimine | 4 to 10 gr. | [illegible] |
| **Ethyl-sulphate of Sodium** | [illegible] to 1 oz. | [illegible] |
| *Ethylic Alcohol* | | [illegible] |
| Eucaine Hydrochloridum A, and B | | [illegible] |
| Eucalyptene Hydrochloride | 2 to [illegible] gr. | 231 |
| Eucalypteol | 2 to [illegible] gr. | [illegible] |
| **Eucalypti Folia** | 5 gr. | [illegible] |
| ,, *[illegible]* | 2 to 5 gr. | [illegible] |
| ,, *Oleum* | [illegible] | [illegible] |
| **Eucalyptol** | [illegible] to 4 m. | [illegible] |
| ,, Phosphate | 1 to [illegible] | [illegible] |
| Eucalyptus Gauze | | 232 |
| ,, Sawdust | | [illegible] |
| ,, Wool | | 232 |
| Eucasein | | 237 |
| Eucasol | | [illegible] |
| Euchinin | 3 to 15 gr. | [illegible] |
| Euchlorine Solution | | [illegible] |
| Eudermol | | [illegible] |
| Eudoxin | [illegible] | [illegible] |
| Eugallol | | [illegible] |
| Eugenia Jambolana | | [illegible] |
| Eugenol, *syn.* Eugenic Acid | | [illegible] |
| ,, Acetamide | | [illegible] |
| Eugol | | [illegible] |
| *Euonymi Cortex* | | [illegible] |
| *[illegible]*, syn. *[illegible]* | 1 to [illegible] gr. | 234 |

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|---|---|---|
| Eupatorium Perfoliatum ... . | 10 to 60 gr. | 479 |
| Euphorbia Pilulifera ... ... ... ... ... .. | | 235 |
| Euphorin .. ... . .. . . ... | 3 to 6 gr. | 465 |
| Euphthalmine ... ... ... ... ... ... ... | | 95 |
| ,, salicylate ... . ... ... | | 95 |
| Euquinine | [illegible] | 419 |
| Euresol ... ... ... | | 122 |
| Eurobin ... ... ... ... ... ... ... ... | | 152 |
| Europhen ... | | [illegible] |
| Exalgin | [illegible] to 2 gr. | [illegible] |
| Extract, Pond's .. . .. | | [illegible] |
| *Extractum Acalyphæ Liquidum* ... ... | 5 to 30 m. | xxiv |
| ,, Achyranthis Liquidum ... ... ... | 1 dr. | 474 |
| ,, Aconiti ... ... ... ... | ¼ to 1 gr. | 46 |
| ,, ,, Radicis Alcoholicum | 1-10 to 1-3 gr. | 46 |
| ,, *[illegible] Liquidum* ... | 20 to 60 m. | [illegible] |
| ,, *Agropyri* ,, ... | 1 to 2 dr. | xxiv, 462 |
| Aletridis ,, ... | 15 to 30 m. | xxxi, 475 |
| ,, [illegible] ... ... | ¼ to 1 gr. | 47 |
| ,, *Aloes Barbadensis* ... ... ... | 1 to 4 gr. | 63 |
| ,, ,, Socotrinæ ... ... ... | 2 to 4 gr. | 63 |
| ,, *Anthemidis* ... ... ... ... | 2 to 8 gr. | 476 |
| ,, *Belæ Liquidum* ... ... ... | 1 to 2 dr. | xxv |
| ,, *Belladonnæ Alcoholicum* ... | ¼ to 1 gr. | 100 |
| ,, ,, Folii Alcoholicum ... ... ... | | 100 |
| ,, ,, *Liquidum* ... ... | ¼ to 1 m. | 100 |
| ,, ,, *Viride* ... ... | ¼ to 1 gr. | 100 |
| ,, Bynes ... ... ... ... | 1 to 4 dr. | 322 |
| ,, ,, Liquidum ... ... ... | 1 to 4 dr. | 322 |
| ,, Cacti Grandiflori Liquidum ... | 1 to 10 m. | 477 |
| ,, Calumbæ, B.P. 1885 ... ... | 2 to 10 gr. | |
| ,, *Cannabis Indicæ* ... ... | ¼ to 1 gr. | 126 |
| ,, Carnis ... . ... ... ... . ... | | [illegible] |
| ,, *Cascaræ Sagradæ* ... ... .. | 2 to 8 gr. | 133 |
| ,, ,, ,, *Liquidum* | 30 to 60 m. | 133 |
| Insipidum | ½ to 2 dr. | 134 |
| ,, Chekan Fluidum ... ... . | ½ to 3 dr. | 478 |
| [illegible] | 1 to 4 gr. | [illegible] |
| ,, *Cimicifugæ Liquidum* ... ... | 5 to 30 m. | 153 |
| ,, Cinchonæ Flavæ Liquidum ... | 10 to 30 m. | 155 |
| ,, ,, *Liquidum* ... ... | 5 to 15 m. | 155 |
| *[illegible] Liquidum* . | [illegible] to 2 dr. | xxvi |
| ,, Cocæ ... ... ... ... | 2 to 15 gr. | 179 |
| ,, ,, *Liquidum* ... ... | ½ to 1 dr. | 179 |
| . *Colchici* .. . | ¼ to 1 gr. | |
| ,, ,, Aceticum, B.P. [illegible] | [illegible] to 2 gr. | |

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|---|---|---|
| Extractum Collinsoniæ Liquidum | 15 to 60 m. | 178 |
| ,, *Colocynthidis Compositum* | 2 to 8 gr. | 63 |
| ,, Condurango Liquidum | 10 to 60 m. | 200 |
| ,, Conii, B.P. 1885 | 2 to 6 gr. | |
| ,, ,, Liquidum | 5 to 15 m. | 201 |
| ,, Convallariæ | 2 to 8 gr. | 202 |
| ,, ,, Fluidum | 2 to 10 m. | 202 |
| ,, Corn Silk, *syn.* Maidis Stigmata | | 482 |
| ,, Cornus Fluidum, U.S. | 30 to 75 m. | 478 |
| ,, Coto Liquidum | 2 to 6 m. | 203 |
| ,, Damianæ | 2 to 10 gr. | 215 |
| ,, ,, Liquidum | ½ to 1 dr. | 215 |
| ,, Digitalis, U.S., semi-alcoholic | 1-6 to ½ gr. | |
| ,, ,, Fluidum, ,, ,, | 1 to 20 m. | |
| ,, *Ergotæ* | 2 to 8 gr. | 225 |
| ,, *Ergotæ Liquidum* | 10 to 30 m. | 225 |
| ,, ,, Fluidum U.S. | | 226 |
| ,, Erythroxyli Fluidum | ½ to 1 dr. | 179 |
| ,, Eucalypti Gummi Liquidum | 30 to 60 m. | 233 |
| ,, Euonymi Liquidum | 10 to 60 m. | 234 |
| ,, ,, *Siccum* | 1 to 2 gr. | 234 |
| ,, Eupatorii Fluidum, U.S. | 10 to 60 m. | 479 |
| ,, Euphorbiæ Piluliferæ | ½ to 1½ gr. | 235 |
| ,, *Filicis Liquidum* | 45 to 90 m. | 248 |
| ,, Frangulæ Liquidum | 1 to 4 dr. | 422 |
| ,, Fuci Vesiculosi | 3 to 10 gr. | 249 |
| ,, ,, ,, Liquidum | 1 to 2 dr. | 249 |
| ,, Galii | 5 to 20 gr. | 479 |
| ,, Gelsemii Alcoholicum | ½ to 2 gr. | 251 |
| ,, *Gentianæ* | 2 to 8 gr. | |
| ,, Gerani Maculati Fluidum | 15 to 60 m. | 479 |
| ,, Glandulæ Thyroideæ Liquidum | 5 to 15 m. | 522 |
| ,, *Glycyrrhizæ* | 5 to 60 gr. | 257 |
| ,, ,, *Liquidum* | 30 to 60 m. | 257 |
| ,, ,, *Spirituosum* | ½ to 1 dr. | xxvi, 257 |
| ,, Gossypii Radicis Corticis | 1 to 4 gr. | xxvi 259 |
| ,, ,, ,, ,, *Liquidum* | ½ to 1 dr. | 259 |
| ,, Grindeliæ | 2 to 3 gr. | 260 |
| ,, ,, *Liquidum* | 10 to 20m. | xxvi, 260 |
| ,, Hæmatoxyli Liquidum | ½ to 2 dr. | 261 |
| ,, Hamamelidis Destillatum | ½ to 3 dr. | 262 |
| ,, ,, *Liquidum* | 5 to 15 m. | 262 |
| ,, Hydrastis | 2 to 5 gr. | 275 |
| ,, ,, *Liquidum* or Fluidum | 5 to 15 m. | 274 |
| ,, *Hyoscyami Viride* | 2 to 8 gr. | |

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| *Extractum Ipecacuanhæ Liquidum* | Expectorant 1 to 2 m.<br>Emetic .. 15 to 20 m | 304 |
| ,, Jaborandi ... ... ... | ... 2 to 10 gr. | 308 |
| ,, ,, *Liquidum* .. | ... 5 to 15 m. | 308 |
| ,, *Jalapæ* ... .. ... | ... 2 to 8 gr. | 312 |
| ,, Jambul Liquidum ... | ... ½ to 2 dr. | 313 |
| ,, Kavæ ... ... ... | ... 5 to 10 gr. | 481 |
| ,, ,, *Liquidum* . | 30 to 60 m. | xxvii |
| ,, Kolæ Liquidum . .. | 10 to 20 m. | 481 |
| ,, *Krameriæ* ... ... . | ... 5 to 15 gr. | |
| ,, Lactucæ, B.P. 1885 .. . . | ... 5 to 15 gr. | |
| ,, Lupuli, B.P. 1885 ... ... | ... 5 to 15 gr. | |
| ,, Maidis Stigmatum ... ... ... | 20 gr. | 482 |
| ,, ,, ,, Fluidum ... | 1 dr. | 482 |
| ,, ,, Ustilaginis Fluidum | ...½ to 2 dr. | 482 |
| ,, Malti ... .. . .. | ... 1 to 4 dr. | 322 |
| ,, ,, Ferratum ... ... | ... 1 to 4 dr. | 322 |
| ,, ,, Liquidum ... ... | ... 1 to 4 dr. | 322 |
| ,, ,, cum Oleo Morrhuæ | ... 1 to 4 dr. | 322 |
| ,, Menyanthis et Glycyrrhizæ Liquidum | ½ oz. | 482 |
| ,, *Nucis Vomicæ* ... ... | ... ¼ to 1 gr. | 350 |
| ,, ,, ,, *Liquidum* ... | ... 1 to 3 m. | 350 |
| ,, *Opii* (20 % Morphine) .. | ¼ to 1 gr. | 361 |
| ,, ,, *Liquidum* (0·75 % Morphine) | 5 to 30 m. | 361 |
| ,, Pancreatis (Fairchild) | ... ... | 361 |
| ,, Papaveris, B.P. 1885 ... | 2 to 5 gr. | |
| ,, Pareiræ, B.P. 1885 .. | 10 to 30 gr. | |
| ,, ,, *Liquidum* ... ... | 30 to 120 m. | |
| ,, *Physostigmatis* ... ... | ¼ to 1 gr. | 356 |
| ,, Pichi Liquidum ... | ...10 to 60 m. | 483 |
| ,, *Pruni Virginianæ Liquidum* . | ... 20 to 60 m. | xxviii |
| ,, Pini Sylvestris ... ... .. | ... ... | 396 |
| ,, Piscidiæ .. . | ... ... | 400 |
| ,, ,, Liquidum... .. | 20 to 120 m. | 400 |
| ,, Quassiæ, B.P. 1885 ... | ... 3 to 5 gr. | |
| ,, Quebracho Liquidum | ... 5 to 10 m. | 410 |
| ,, Rhamni Frangulæ ... . . | ... 15 to 60 gr. | 422 |
| ,, ,, ,, Liquidum | ... 1 to 4 dr. | 422 |
| ,, ,, *Purshiani*... ... | ... 2 to 4 gr. | 433 |
| ,, ,, ,, *Liquidum* | ... 30 to 60 m. | 434 |
| ,, *Rhei* ... ... ... ... | ... 2 to 8 gr. | |
| ,, Rubi Chamæmori Liquidum | ... ½ to 1 dr. | 484 |
| ,, Salicis Nigræ Liquidum ... | ... ½ to 1 dr. | 484 |
| ,, *Sarsæ Liquidum* ... ... | ... 2 to 4 dr. | |
| ,, Scopolæ ... ... ... | 1-8 to ½ gr. | 485 |
| ,, ,, Liquidum... ... | ... 1 to 5 m. | 485 |

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| Extractum Senecionis Liquidum | 20 to 60 m. | 485 |
| ,, Sennæ Leguminorum Liquidum | 1 to 2 dr. | 224 |
| ,, Sethiæ Liquidum | 20 to 40 m. | 485 |
| ,, Stillingiæ Fluidum | 15 to 60 m. | 440 |
| ,, *Stramonii* | ¼ to 1 gr. | |
| ,, *Strophanthi* | ¼ to 1 gr. | 443 |
| ,, *Taraxaci* | 5 to 15 gr. | |
| ,, ,, *Liquidum* | ½ to 2 dr. | |
| ,, Tritici Liquidum | 1 to 2 dr. | 462 |
| ,, Viburni Prunifolii | 2 to 10 gr. | 487 |
| ,, ,, ,, Liquidum | 60 to 120 m. | 487 |
| ,, Vincæ Majoris Liquidum | 1½ dr. | 487 |
| ,, Yerbæ Santæ | 10 to 40 m. | 487 |
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| ,, ,, Glass Capsules of | | 533 |
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| *Fel Bovinum Purificatum* | 5 to 15 gr. | |
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| Ferratin | 8 to 15 gr. | 242 |
| Ferri Albuminati, Liquor | 1 to 4 dr. | 243 |
| ,, *Arsenas* | 1-16 to ¼ gr. | 84 |
| ,, Bromidum | 3 to 10 gr. | 237 |
| ,, *Carbonas Saccharatus* | 10 to 30 gr. | 238 |
| ,, *et Ammonii Citras* | 5 to 10 gr. | |
| ,, ,, Sulphas | 3 to 10 gr. | 248 |
| ,, et Magnesii Sulphas | 2 to 10 gr. | 247 |
| ,, ,, Sulphas Effervescens | 1 dr. or more | 248 |
| ,, et Manganesii Citras | 3 to 15 gr. | 248 |
| ,, ,, *Quininæ Citras* | 5 to 10 gr. | 412 |
| ,, ,, ,, ,, Effervescens | 1 dr. | 412 |
| ,, et Strychninæ Citras | 3 to 6 gr. | 445 |
| ,, Fluoridum | 1/30 to ½ gr. | 20 |
| ,, Glycerophosphas | 1 to 5 gr. | 24 |
| ,, Hypophosphis | 1 to 5 gr. | 383 |
| ,, Iodidum | 1 to 5 gr. | |
| ,, Lactas | 2 to 10 gr. | 21 |
| ,, Oxidum Magneticum | 5 to 10 gr. | |
| ,, Oxypersulphas | | 247 |
| ,, Peptonati, Liquor | 1 to 4 dr. | 243 |
| ,, Perchloridum | 2 to 8 gr. | 239 |
| ,, Peroxidum Humidum | 2 to 4 dr. | |
| ,, *Phosphas* | 5 to 10 gr. | 245 |
| ,, ,, Solubilis, U.S. | 2 to 8 gr. | 245 |
| ,, Pyrophosphas, U.S. | 2 to 8 gr. | 385 |
| ,, Quininæ et Strychninæ Citras | 3 to 6 gr. | 445 |

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| Ferri Salicylas | 3 to 10 gr. or more. | 33 |
| ,, Subsulphas | | 247 |
| ,, Succinas | | 406 |
| ,, *Sulphas* | 1 to 5 gr. | 247 |
| ,, ,, *Exsiccatus* | ½ to 3 gr. | 247 |
| ,, ,, Granulatus | 1 to 5 gr. | 247 |
| Ferric Cacodylate | ¾ to 5 gr. | 85 |
| Ferrier's Snuff | | 106 |
| Ferrinol | | 136 |
| Ferripyrin, Ferropyrin | 3 to 8 gr. | 175 |
| Ferro-Alumen | 3 to 10 gr. | 248 |
| Ferrocyanic Acid Test Pellets | | 525 |
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| ,, Oxydatum Saccharatum | 10 to 40 gr. | 242 |
| ,, *Redactum* | 1 to 5 gr. | |
| ,, *Tartaratum* | 5 to 10 gr. | |
| Fersan | 30 to 80 gr. | 235 |
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| Fluoride of Ammonium | 1-24 to ⅙ gr. | 20 |
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| ,, Quinine | 1 to 2 gr. | 20 |
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| ,, Oil of Turpentine | 30 m. every ½ hour | 376 |
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| *Galla* | 5 to 15 gr. | |
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| Gelsemin (Eclectic) | ½ to 2 gr. | 251 |
| Gelsemina (Pure Alkaloid) | 1-60 to 1-20 gr. | 250 |
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| Gelsemininæ Hydrochloridi Liquor | | 250 |
| *Gelsemii Radix* | 5 to 15 gr. | 250 |
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| Geoffroya Inermis | 20 to 30 gr. | 479 |
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| Geranin | 1 to 5 gr. | 479 |
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| ,, Pepsin | 1 dr. with meals | 367 |

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| *Glycerinum Pepsini* ... ... ... | ½ to 2 dr. | 574 |
| ,, Phosphori ... ... ... | 15 to 60 m. | 378 |
| ,, *Plumbi Subacetatis* ... ... ... ... ... | | 254 |
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| Glycyrrhizinum Ammoniatum ... ... | ½ to 5 gr. | 257 |
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| *Guaiaci Resina* ... ... ... ... ... | 5 to 15 gr. | |
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| ,, Camphorate ... | 5 to 10 gr. | 211 |
| ,, Cinnamate | 15 gr. | 211 |
| ,, Crystals ... ... | 1 to 5 gr. | 208 |
| ,, Benzoate ... | 4 to 12 gr. | 210 |
| ,, Benzoyl-ester ... ... | 4 to 12 gr. | 210 |
| ,, Carbonate ... ... ... | 3 to 8 gr. | 211 |
| ,, Phosphite, Guaiacophosphal ... | 6 to 10 gr. | 211 |
| ,, Salol ... | 15 to 75 gr. | 211 |
| ,, Valerianate ... ... | 3 m. | 212 |
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| ,, Creosoti ... ... ... ... ... | 1 oz. | 205 |
| ,, Filicis Maris ... ... ... ... | 1½ oz. | 249 |
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| ,, Sulphonal ... ... ... ... ... | 1 oz. | 448 |
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| ,, Hydrochloridum | 1-80 to 1-20 gr. | 93 |
| ,, Salicylas | 1-80 to 1-20 gr. | 93 |
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| ,, *Chloridum = Subchloridum* | ½ to 5 gr. | |
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| ,, ,, Mite, U.S. = Subchloridum. | | |
| ,, Cyanidum | 1-20 to 1-4 gr. | 264 |
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| ,, *Iodidum Rubrum* | 1-32 to 1-16 gr. | 266 |
| ,, ,, Viride | 1-6 to 1 or 3 gr. | 267 |
| ,, Lanolinum | | 347 |
| ,, Naphthol-Acetas | ½ to 1 gr. | 273 |
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| ,, *Nitrico-Oxidum* | ¼ to 1 gr. | |
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| ,, *Pilula* | 4 to 8 gr. | |
| ,, et Potassii Iodidum | 1-16 to 1-4 gr. | 266 |
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| ,, *Subchloridi, Co. Pilula* | 4 to 8 gr. | 272 |

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| ,, Bijodatum, P.G.=Iodid. Rub. ... ... | | 266 |
| ,, Jodatum, P.G.=Iodid. Vir. ... ... | | 267 |
| Hydrastin (Eclectic) ... ... ... | ... ½ to 2 gr. | 276 |
| Hydrastina, Hydrastine (Alkaloid) ... | ... ½ to 1 gr. | 275 |
| Hydrastinæ Hydrochloridum ... ... | ... ½ to 1 gr. | 275 |
| ,, Tartras Acidus ... ... | ... ½ to 1 gr. | 275 |
| Hydrastinina, Hydrastinine ... ... ... ... ... | | 275 |
| Hydrastininæ Hydrochloridum ... | ...½ to 1½ gr. | 275 |
| Hydrastinum ... ... ... ... | ... ½ to 2 gr. | 276 |
| *Hydrastis Rhizoma* ... ... ... | 10 to 30 gr. | 274 |
| Hydrate of Amylene ... ... ... | ... 30 to 80 m. | 73 |
| ,, Benzoyl ... ... ... | ... 3 to 15 gr. | 1 |
| ,, Bromal ... ... ... | ... 2 to 5 gr. | 108 |
| ,, *Butyl-Chloral* ... ... | ... 5 to 20 gr. | 112 |
| ,, *Chloral* ... ... ... | ... 5 to 30 gr. | 137 |
| Hydride of Amyl, or Hydramyl ... ... ... ... | | 197 |
| Hydriodic Ether ... ... ... ... ... ... ... | | 53 |
| Hydrobromic Acid, Concentrated ... ... ... ... | | 19 |
| ,, ,, *Diluted* ... ... | 20 to 60 m. | 19 |
| ,, Ether ... ... ... ... ... ... | | 50 |
| Hydrochinon ... ... ... ... | ... ½ to 5 gr. | 281 |
| *Hydrochloric Acid* ... ... ... | ... 2 to 10 m. | |
| Hydrocotyle Asiatica ... ... ... | ... 1 to 10 gr. | 480 |
| *Hydrocyanic Acid, Diluted* ... ... | ... 2 to 8 m. | |
| Hydrofluoric Acid ... ... ... ... ... ... | | 19 |
| Hydrogen Peroxide ... ... ... | ½ to 2 dr. | 277 |
| Hydronaphthol ... ... ... ... ... ... | | 341 |
| Hydrophobia Antitoxin ... ... ... ... | | 498 |
| Hydroquinine ... ... ... ... ... ... ... | | 151 |
| Hydroquinone ... ... ... ... | .. ½ to 5 gr. | 281 |
| Hydroxylamine ... ... ... ... ... ... | | 480 |
| ,, Hydrochloride ... ... ... ... ... | | 481 |
| *Hygrophila* ... ... ... ... ... ... ... | | xxvii |
| Hymenodictyon Excelsum ... ... ... ... ... | | 481 |
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| *Hyoscinæ Hydrobromidum* ... ... | 1-200 to 1-100 gr. | 283 |
| ,, Hydrochloridum ... ... | 1-200 to 1-100 gr. | 283 |
| ,, Hydriodidum ... ... | 1-200 to 1-100 gr. | 283 |
| *Hyoscyami Folia* ... ... ... ... ... ... | | 281, 285 |

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| Hyoscyamina, Hyoscyamine | 1-120 to 1-40 gr. | 87, 88, 285 |
| Hyoscyaminæ Hydrobromidum | 1-120 to 1-40 gr. | 285 |
| ,, *Sulphas* | 1-200 to 1-100 gr. | 285 |
| Hyoscyamine, Amorphous | 1-16 to 1-8 gr. | 285 |
| Hyperosmic Acid, sol. 1 per cent. | 2 to 10 m. daily | 23 |
| Hypnal | 15 gr. | 175 |
| Hypobromite of Sodium, Solution | | 433 |
| Hypodermic Injections, see Injectio. | | |
| ,, ,, with Vaseline Oil | | 371 |
| ,, Lamels :— | | |
| Apomorphine | 1-10 gr. | 76 |
| Atropine | 1-120, 1-100 gr. | 90 |
| Caffeine | ¼ gr. | 115 |
| Cocaine | ¼ gr. | 184 |
| Codeine | ¼ gr. | 195 |
| Curare | 1-20 gr. | 214 |
| Curarine | 1-400 gr. | 214 |
| Digitalin | 1-100 gr. | 219 |
| Ergotin | ½ gr. | 226 |
| Hyoscine | 1-200 gr. | 283 |
| Hyoscyamine | 1-50 gr. | 286 |
| Morphine | ¼ gr. | 333 |
| Morphine | ¼ gr. | 90, 333 |
| Atropine | 1-120 gr. | |
| Morphine Tartrate | 1-6 gr. | 336 |
| ,, ,, | 1-6 gr. | 336 |
| Atropine | 1-100 gr. | |
| Physostigmine | 1-100 gr. | 388 |
| Pilocarpine | ¼ gr. | 310 |
| Quinine | ½ gr. | 413 |
| Sclerotinic Acid | 1-16 gr. | 227 |
| Scopolamine | 1-200 and 1-75 gr. | 283 |
| Sparteine | 1 gr. | 439 |
| Strychnine | 1-60 gr. | 417 |
| Hypodermic Tablets, see Tablets, Hypodermic | | 590 |
| Hypophosphites | | 382 |
| Hypophosphorous Acid | 2 to 5 m. | 382 |
| Hyposulphite of Sodium | 10 to 60 gr. | 43 |
| Hyrgol | | 263 |
| Ichthalbin | ¾ to 15 gr. | 288 |
| Ichthargan | | 81 |
| Ichthyol | | 286 |
| ,, Paste | | 288 |
| Ignatia Amara Beans | | 351 |
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| Infusum Abri ... . ... | | 1 |
| ,, Adonidis Vernalis .. ... . ... | 4 dr. | 475 |
| ,, *Alstoniæ* . . | ½ to 1 oz. | xxix |
| ,, *Andrographidis* . | ½ to 1 oz. | xxix |
| ,, **Anthemidis** ... ... ... .. | 1 to 4 oz. | 476 |
| ,, *Aurantii*, 1 in 20 ... ... .. | ½ to 1 oz. | |
| ,, ,, *Compositum* ... . .. | ½ to 1 oz. | |
| ,, *Azadirachtæ Indicæ* . | ½ to 1 oz. | [illegible] |
| ,, *Buchu*, 1 in 20 ... ... | 1 to 2 oz. | |
| ,, *Calumbæ*, 1 in 20 ... | ½ to 1 oz. | |
| ,, *Caryophylli*, 1 in 40 ... .. | ½ to 1 oz. | |
| ,, *Cascarillæ*, 1 in 20 ... ... ... | ½ to 1 oz. | |
| ,, Catechu, 1 in 16, c. Cinnamon, 1 in 150 ... ... ... ... | to 1 oz. | |
| ,, *Chiratæ*, 1 in 20 (boiling) ... ... | ½ to 1 oz. | |
| ,, *Cinchonæ Acidum* . | ½ to 1 oz. | 176 |
| ,, Cocæ .. .. | 4 to 8 oz. | 179 |
| ,, Condurango ... ... ... .. | ½ to 2 oz. | 200 |
| ,, *Coscinii* ... . . ... | to 1 oz. | xxvi |
| ,, *Cuspariæ*, 1 in 20 . | 1 to 2 oz. | |
| ,, Cusso, 1 in 16 ... ... ... ... | 4 to 8 oz. | |
| ,, *Digitalis*, 1 in 146 ... ... ... | ¼ to ½ oz. | 217 |
| ,, ,, Concentratum ... | 15 to 30 m. | 217 |
| ,, *Ergotæ*, 1 in 20 | 1 to 2 oz. | 225 |
| ,, *Gentianæ Compositum* | to 1 oz. | |
| ,, ,, ,, Concentratum | ½ to 1 dr. | [illegible] |
| ,, Gokhru . . . | 20 oz. daily. | [illegible] |
| ,, Kava-Kava ... .. .. | [illegible] | 481 |
| ,, *Krameriæ*, 1 in 20 ... ... ... | to 1 oz. | |
| ,, *Lini*, 1 in 30, Liquorice, 1 in 90 ... | [illegible] | |
| ,, *Lupuli*, 1 in 20 .. ... ... ... | 1 to 2 oz. | |
| ,, Maticæ, 1 in 20 ... ... ... | 1 to 4 oz. | |
| ,, Menyanthis ... ... ... ... | 2 to 6 oz. | [illegible] |
| ,, *Quassiæ*, 1 in 100 .. | to 1 oz. | |
| ,, *Rhei*, 1 in 20 ... | to 1 oz. | |
| ,, *Rosæ Acidum* | to 1 oz. | |
| ,, Rubi Chamæmori ... ... ... | ½ oz. | 484 |
| ,, *Scoparii*, 1 in 10 ... ... ... | 1 to 2 oz. | |
| ,, *Senegæ*, 1 in 20 ... ... ... | ½ to 1 oz. | |
| ,, *Sennæ* ... ... ... ... ... | ½ to 2 oz. | |
| ,, *Serpentariæ*, 1 in 20 ... ... ... | ½ to 1 oz. | |
| ,, *[illegible]* ... ... ... ... | ½ to 1 oz. | xxix |

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| *Infusum* [illegible] ... .. ... ... | 1 to 2 oz. | [illegible] |
| ,, *Uvæ Ursi*, 1 in 20 ... ... ... | ½ to 1 oz. | |
| ,, Valerianæ, 1 in 40 ... ... ... | 1 to 2 oz. | |
| ,, Zeæ Maydis ... . | a wine-glassful | 157 |
| Inglavin ... ... ... ... ... ... | 5 to 10 gr. | 290 |
| Injectio Acidi Osmici Hypodermica . ... ... | | 23 |
| ,, ,, Sclerotici Hypodermica ... | 3 to 5 m. | 227 |
| ,, Aconitinæ Hypodermica ... ... | 1 to 2 m. | 45 |
| ,, Antipyrin Hypodermica ... ... | 8 to 30 m. | 173 |
| ,, ,, et Cocainæ Hypodermica | 8 to 30 m. | 173 |
| ,, *Apomorphinæ Hypodermica* ... | 5 to 10 m. | 76 |
| ,, Atropinæ Hypodermica ... ... | 1 to 4 m. | 90 |
| ,, Caffeinæ Hypodermica ... ... | 1 to 6 m. | 115 |
| ,, Cantharidin (Liebreich's) ... ... ... ... | | 130 |
| ,, *Cocainæ Hypodermica* ... ... | 2 to 5 m. | 184 |
| ,, Codeinæ Hypodermica ... ... | 2 to 12 m. | 195 |
| ,, Colchicinæ Hypodermica ... ... | | 197 |
| ,, Coniinæ Hydrobromidi Hypodermica | 1 to 3 m. | 200 |
| ,, Cotoin Hypodermica ... ... ... | 15 m. | 203 |
| ,, Curare Hypodermica ... ... | 1 to 6 m. | 214 |
| ,, *Ergotæ Hypodermica*... ... ... | 3 to 10 m. | 226 |
| ,, Ergotininæ Hypodermica ... ... | 5 to 10 m. | 226 |
| ,, Exalgin Hypodermica ... ... ... ... | | 167 |
| ,, Guaiacol ... ... ... ... ... ... | | 209 |
| ,, Homatropinæ Hypodermica ... | 1 to 6 m. | 93 |
| ,, Hydrargyri Hypodermica ... ... ... ... | | 263 |
| ,, ,, Iodidi Rubri Hypodermica ... ... ... ... | 2 to 6 m. | 266 |
| ,, Hydrargyri Oxidi Flavi ... ... ... ... | | 273 |
| ,, ,, ,, ,, cum Asparagin ... ... | | 274 |
| ,, ,, ,, ,, cum Formamido ... ... | | 274 |
| ,, ,, Succinimidi ... ... ... ... | | 272 |
| ,, ,, Thymolacetatis .. ... ... ... | | 274 |
| ,, Hyoscinæ Hypodermica ... ... | 1 to 2 m. | 283 |
| ,, Hyoscyaminæ Hypodermica ... | 1 to 2 m. | 285 |
| ,, Iodi Hypodermica Fortissima ... | 3 to 5 m. | 300 |
| ,, Iodoformi ... ... ... ... ... ... | | 291 |
| ,, Morphinæ Acetatis Hypodermica | 1 to 2 m. | 3[illegible] |
| ,, ,, et Atropinæ Hypodermica ... ... ... ... | 1 to 3 m. | 333 |
| ,, *Morphinæ Hypodermica* ... ... | 2 to 5 m. | 336 |
| ,, Nitroglycerini Hypodermica ... | 1 to 4 m. | 345 |
| ,, Physostigminæ Sulphatis Hypodermica | 1 to 1 m. | 387 |
| ,, Picrotoxini Hypodermica ... ... | 3 to 6 m. | 389 |
| ,, Pilocarpinæ Nitratis Hypodermica | 2 to 6 m. | 310 |
| ,, Potassæ Cantharidatis (Liebreich) ... . | | 130 |

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| Injectio Pyoktanin | | 177 |
| ,, Quininæ Hydrobromidi Acid Hypodermica | 3 to 12 m. | 413 |
| ,, Quininæ Hydrochloridi Hypodermica | | 414 |
| ,, (aural) | | 414 |
| ,, Quininæ Hydrochloridi Acidi Hypodermica | 3 to 12 m. | 414 |
| ,, Quininæ Hydrochlorosulphatis Hypodermica | 2 to 12 m. | 414 |
| ,, Sal-Alembroth Hypodermica | | 271 |
| ,, Sodii Cacodylatis | | 86 |
| ,, Sparteinæ Hypodermica | 2 to 6 m. | 439 |
| ,, Strychninæ Hydrochloridi | 2 to 6 m. | 446 |
| ,, ,, Nitratis Hypodermica | 2 to 6 m. | 446 |
| ,, Tuberculin (Koch) R. or TR. | | 510 |
| ,, Tuberculocidin | | 510 |
| ,, Zinci Chloridi (Lannelongue) | | 470 |
| Injection Treatment of Tuberculosis | | 507 |
| Ink, Heberden's | 1 to 2 oz. | 156 |
| Insufflatio Eucalypti Gummi, ¼ gr. in each | | 233 |
| ,, Iodoformi, 1 gr. in each | | 291 |
| ,, ,, Composita | | 291 |
| ,, Morphinæ | | 331 |
| Inula Helenium | | 481 |
| Iodantipyrin, *syn.* Iodopyrin | 5 to 20 gr. | 175 |
| Iodide of Ammonium | 3 to 20 gr. | 69 |
| ,, *Arsenium* | 1-20 to 1-5 gr. | 84 |
| ,, Ethyl Capsules, 5 m. in each | | 53 |
| *Iodine* | | 299 |
| ,, Anytol | | 289 |
| Iodiqin | | 300 |
| Iodinoleum, Iodinol | | 300 |
| Iodized Solution, Carbolised | | 11 |
| ,, Starch | ½ to 4 dr. | 302 |
| ,, ,, Paste of | | 303 |
| ,, Wool | | 300 |
| ,, Phenol | | 12 |
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| Iodo-Cresol, *syn.* Traumatol | | 289 |
| Iodo-Eigon | | 295 |
| *Iodoform* | ½ to 3 gr. | 290 |
| ,, and Eucalyptus Bougies | | 292 |
| ,, Gauze, 10 and 20 per cent. | | 292 |
| ,, Lint, 10 per cent. | | 292 |
| ,, Pencils | | 293 |
| ,, Varnish (Whitehead's) | | 292 |

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| Iodoformal | | 295 |
| Iodoformin | | 296 |
| Iodoformogen | | 296 |
| *Iodoformum* | ½ to 3 gr. | 290 |
| ,, Aromaticum | | 291 |
| ,, Precipitatum | ½ to 3 gr. | 290 |
| Iodo-Glycerin Solution, 10 gr. in 1 oz. | | 300 |
| Iodol | 1 to 3 gr. | 296 |
| Iodolene | | 296 |
| Iodo-menthol | | 296 |
| Iodo-Mercurate of Cinchonine | | 158 |
| ,, ,, of Potassium, Solution of | | 526 |
| Iodo-mercuro-hæmol | 6 gr. | 480 |
| Iodopyrin | 5 to 20 gr. | 175 |
| Iodo-Salicylic Acid | | 297 |
| ,, -Theobromine | 2 to 10 gr. | 456 |
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| ,, Oleatum | | 301 |
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| *Ipecacuanha* | ¼ to 2 gr. expectorant<br>15 to 30 gr. emetic | 304 |
| ,, sine Emetina | 10 to 30 gr. | 304 |
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| Iridin, *syn.* Irisin | 1 to 3 gr. | 306 |
| Iron Alum | 3 to 10 gr. | 248 |
| ,, Bromide | 3 to 10 gr. | 237 |
| ,, Carbonate | | 238 |
| ,, Dialysed | 10 to 30 m. | 241 |
| ,, Perchloride | 2 to 8 gr. | 239 |
| ,, *Phosphate* | 5 to 10 gr. | 245 |
| ,, ,, U.S. | 2 to 8 gr. | 245 |
| ,, Pyrophosphate, U.S. | 2 to 8 gr. | 385 |
| ,, Salicylate | 3 to 10 gr. | 33 |
| ,, Somatose | | 237 |
| Iso-pilocarpine | | 309 |
| Isoaconitine | | 45 |
| Isobutyl Nitrite | 2 to 5 m. inhaled | 73 |
| ,, ,, Capsules of | | 73 |
| *Ispaghula* | 50 to 150 gr. | xxvii |
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| Lac Sulphuris | 20 to 60 gr. | 451 |
| Lactate of Calcium | 1 to 5 gr. | 21 |
| ,, Iron | 2 to 10 gr. | 21 |
| ,, Quinine | 1 to 5 gr. | 415 |
| ,, Zinc | 3 to 30 gr. | 471 |
| *Lactic Acid* | 5 to 20 m. | 20 |
| ,, ,, Diluted | 30 to 120 m. | 21 |
| Lactophenin | 5 to 15 gr. | 169 |
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| *Lamellæ Atropinæ* | 1-5000 and 1-500 gr. | 93 |
| ,, ,, 1-200 gr. and Cocainæ 1-100 | | 93 |
| ,, *Cocainæ* | 1-50 gr. | 184 |
| ,, Eupthalminæ | 1-50 gr. and 1-100 gr. | 95 |
| ,, *Homatropinæ* | 1-100 gr. | 93 |
| ,, ,, 1-50 gr. and Cocainæ 1-50 gr. | | |
| ,, *Physostigminæ* | 1-1000 gr. | 388 |
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| Laricic Acid | 1-6 to 1 gr. | 54 |
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| Levico Water, mild and strong | 1 oz. | 83 |
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| Liebreich's Pepsin-Essenz | 1 to 2 dr. | 374 |
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| Limonis Cortex Siccatus | | xxx |
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| ,, Codeinæ | 1 to 2 dr. | 196 |
| ,, Morphinæ | 60 m. | 334 |
| ,, Scillæ Opiatus | 1 dr. | 362 |
| ,, Sedativus | 1 dr. | 335 |
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| ,, Iodoformi | | 292 |
| *Linum Contusum*, containing oil, *vice* Lini Farina | | |
| Liquid Somatose | | 237 |
| *Liquor Acidi Chromici*, 1 to 3 | | 18 |
| ,, ,, Osmici, 1 per cent. | 2 to 10 m. | 23 |
| ,, ,, Picrici | ½ to 3 dr. | 26 |
| ,, ,, Salicylici | | 31 |
| ,, Acidus Halleri | 2 to 8 m. | 40 |
| ,, Aluminii Acetici | | 66 |
| ,, ,, Chloridi | | 67 |
| ,, *Ammoniæ* | 10 to 20 m. | 70 |
| ,, ,, Domesticus | | 70 |
| ,, ,, *Fortis* | 3 to 6 m. | 70 |
| ,, ,, Fortissimus | | 70 |
| ,, *Ammonii Acetatis* | 2 to 6 dr. | 70 |
| ,, ,, Acetatis Fortior | 25 to 75 m. | 70 |
| ,, ,, *Citratis* | 2 to 6 dr. | 70 |
| ,, ,, Citratis Fortior | ½ to 1½ dr. | 70 |
| ,, *Andrographidis Concentratus* | ½ to 1 dr. | xxiv |
| ,, Antimonii Chloridi | | 74 |
| ,, Antisepticus | | 159 |
| ,, *Aristolochiæ Concentratus* | ½ to 2 dr. | xxv |
| ,, *Arsenicalis* | 2 to 8 m. | 83 |
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| ,, ,, *Hydrochloricus* | 2 to 8 m. | 82 |
| ,, *Arsenii et Hydrargyri Iodidi* | 5 to 20 m. | 84 |
| ,, Atropinæ Salicylatis | | 89 |
| ,, ,, *Sulphatis*, 1 per cent. | ½ to 1 m. | 90 |
| ,, Auri et Arsenii Bromidi | 5 to 10 m. | 97 |
| ,, ,, et Hydrargyri Bromidi | 5 to 10 m. | 97 |
| ,, *Berberidis Concentratus* | ½ to 1 dr. | xxv |
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| ,, ,, *et Ammonii Citratis* | 30 to 60 m. | 103 |
| ,, ,, Concentratus | 15 to 30 m. | 103 |
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| ,, Bromi Arsenitis (Clemens) | 1 to 5 m. | 83 |
| ,, Bromo-Chloral Compositus | ½ to 2 dr. | 138 |
| ,, Brucinæ | | 111 |
| ,, Calcii Chloridi | 15 to 50 m. | 118 |
| ,, *Calcis* | 1 to 4 oz. | |
| ,, ,, *Saccharatus* | 20 to 60 m. | 119 |
| ,, *Calumbæ Concentratus*, 1 in 2 | ½ to 1 dr. | 318 |
| ,, *Caoutchouc* | | 428 |

| Name. | Dose. | Page |
|---|---|---|
| Liquor Capsici Compositus | | 131 |
| ,, Carbonis Detergens | | 159 |
| ,, Carmini, 40 gr. to 1 oz. | | 132 |
| ,, Carnis | 2 to 4 dr. | 236 |
| ,, *Chiratæ Concentratus*, 1 in 2 | ½ to 1 dr. | 318 |
| ,, *Chlori* | 10 to 20 m. | |
| ,, Chloromorphiæ | 5 to 15 m. | 148 |
| ,, Cocci | | 132 |
| ,, Cocainæ Hydrochloratis | 2 to 5 m. | 184 |
| ,, Copaibæ | ½ to 1 dr. | 360 |
| ,, ,, cum Buchu et Cubeba | 1 to 2 dr. | 360 |
| ,, *Coscinii Concentratus* | ½ to 1 dr. | xxvi |
| ,, Cresoli Saponatus | | 160 |
| ,, *Cuspariæ Concentratus*, 1 in 2 | ½ to 1 dr. | 318 |
| ,, *Epispasticus* | | 129 |
| ,, ,, *Mylabridis* | | xxvii |
| ,, Ergotæ Aceticus | 10 to 60 m. | 226 |
| ,, ,, Ammoniatus | 10 to 60 m. | 227 |
| ,, *Ethyl Nitritis* | 20 to 60 m. | 50 |
| ,, *Ferri Acetatis* | 5 to 15 m. | 241 |
| ,, ,, Albuminati | 1 to 4 dr. | 243 |
| ,, ,, Chloroxidi | 10 to 30 m. | 241 |
| ,, ,, Dialysatus | 10 to 30 m. | 241 |
| ,, ,, Hypophosphitis Compositus | ½ to 2 dr. | 384 |
| ,, ,, ,, Fortis | 10 to 30 m. | 384 |
| ,, ,, Iodidi | 3 to 6 m. | 245 |
| ,, ,, Oxychlorati | | 241 |
| ,, ,, Peptonati | 1 to 4 dr. | 243 |
| ,, ,, ,, cum Quinina | 1 to 4 dr. | 244 |
| ,, ,, *Perchloridi* | 5 to 15 m. | 239 |
| ,, ,, ,, *Fortis* | 1 to 4 m. | 239 |
| ,, ,, *Pernitratis* | 5 to 15 m. | |
| ,, ,, Subsulphatis | 3 to 6 m. | 247 |
| ,, Ferro-Manganesii Peptonati | 1 to 4 dr. | 244 |
| ,, Fluoresceinæ | | 167 |
| ,, Gelsemininæ Hydrochloridi, 1 to 60 | | 250 |
| ,, Glonoini | ½ to 2 m. | 346 |
| ,, *Hæmamelidis* | | 262 |
| ,, *Hydrargyri Nitratis Acidus* | | 267 |
| ,, ,, *Perchloridi* | ½ to 1 dr. | 268 |
| ,, *Hydrogenii Peroxidi* | ½ to 2 dr. | 277 |
| ,, Hyoscinæ Hydrobromidi | 3 to 15 m. | 283 |
| ,, Hypophosphitum Compositus | ½ to 2 dr. | 384 |
| ,, Iodi | 5 to 30 m. | 301 |
| ,, ,, Dilutus | | 301 |
| ,, ,, *Fortis* | | 301 |

| Name. | Dose. | Page |
|---|---|---|
| iquor Jaborandi (Ext. Fluid) | 5 to 15 m. | 308 |
| ,, *Krameriæ Concentratus*, 1 in 2 | ½ to 1 dr. | 318 |
| ,, Magnesii Boratis | | 7 |
| ,, ,, *Carbonatis* | 1 to 2 oz. | |
| ,, *Morphinæ Acetatis*, 1 per cent. | 10 to 60 m. | 334 |
| ,, ,, Bimeconatis ,, | 5 to 40 m. | 335 |
| ,, ,, *Hydrochloridi* ,, | 10 to 60 m. | 335 |
| ,, ,, Sulphatis ,, | 10 to 60 m. | 336 |
| ,, ,, *Tartratis* | 10 to 60 m. | 336 |
| ,, *Nitroglycerini* | ½ to 2 m. | 346 |
| ,, Nuclei | 2 dr. | 136 |
| ,, Pancreaticus | 1 to 2 dr. | 365 |
| ,, *Pancreatis* | 1 to 2 dr. | 364 |
| ,, Pepticus | 1 to 2 dr. | 374 |
| ,, *Picis Carbonis* | | 159 |
| ,, ,, ,, et Ligni | | 159 |
| ,, ,, Ligni | | 159 |
| ,, Picrotoxini Aceticus | 2 to 12 m. | 389 |
| ,, Plumbi Lactatis | | 254 |
| ,, ,, *Subacetatis Dilutus* | | 254 |
| ,, ,, ,, *Fortis* | | 254 |
| ,, *Potassæ* | 10 to 30 m. | |
| ,, Potassæ Arsenitis | 2 to 8 m. | 82 |
| ,, *Potassii Permanganatis* | 2 to 4 dr. | 324 |
| ,, Protargol | | 81 |
| ,, *Quassiæ Concentratus*, 1 in 10 | ½ to 1 dr. | 318 |
| ,, Quininæ et Strychninæ | 4 to 8 m. | 246 |
| ,, *Rhei Concentratus*, 1 in 2 | ½ to 1 dr. | 318 |
| ,, Santali cum Buchu et Cubeba | 1 to 2 dr. | 360 |
| ,, ,, Compositus | 1 to 2 dr. | 361 |
| ,, *Sarsæ Compositus Concentratus* | 2 to 8 dr. | 318 |
| ,, *Senegæ Concentratus*, 1 in 2 | ½ to 1 dr. | 318 |
| ,, *Sennæ Concentratus*, 1 in 1 | ½ to 1 dr. | 318 |
| ,, *Serpentariæ Concentratus*, 1 in 2 | ½ to 1 dr. | 318 |
| ,, *Sodæ Chlorinatæ* | 10 to 20 m. | |
| ,, *Sodii Arsenatis* | 2 to 8 m. | 85 |
| ,, ,, Carbolatis | | 15 |
| ,, ,, *Ethylatis* | | 432 |
| ,, Stillingiæ Compositus | 1 to 4 dr. | 440 |
| ,, *Strychninæ Hydrochloridi* | 2 to 8 m. | 446 |
| ,, Testicularis | 15 to 30 m. | 518 |
| ,, Thymol, 1 in 800 | | 457 |
| ,, *Thyroidei* | 5 to 15 m. | 522 |
| ,, *Tinosporæ Concentratus* | ½ to 1 dr. | xxix |
| ,, *Toddaliæ Concentratus* | ½ to 1 dr. | xxix |
| ,, *Trinitrini* | ½ to 2 m. | 346 |

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| *Liquor Zinci Chloridi*, 4 m. = 3 gr. | | 469 |
| Liquores Concentrati | | 318 |
| ***Liquorice*** | | 257 |
| ,, ***Compound Powder of*** | 60 to 120 gr. | 258 |
| ,, Indian | | 1 |
| Listerine | 1 to 2 dr. | 4 |
| Lithii **Benzoas** | 2 to 10 gr. | 319 |
| ,, **Bromidum** | 5 to 15 gr. | 319 |
| ,, *Carbonas* | 2 to 5 gr. | 319 |
| ,, ***Citras*** | 5 to 10 gr. | 319 |
| ,, ,, ***Effervescens*** | 1 to 2 dr. | 319 |
| ,, Glycerophosphas | 3 to 8 gr. | 24 |
| ,, **Guaiacas** | 2 to 5 gr. | 319 |
| ,, **Hippuras** | 5 to 20 gr. | 319 |
| ,, **Salicylas** | 5 to 20 gr. | 319 |
| ,, ,, **Effervescens** | 1 to 2 dr. | 320 |
| ,, Sulpho-Ichthyolas | 10 to 30 gr. daily | 287 |
| ,, Tartras Acidus | 5 to 20 gr. | 320 |
| Lithium-Diuretin | 5 to 15 gr. | 456 |
| ,, Quinate | 5 to 15 gr. | 320 |
| ,, Salicylicum | 5 to 20 gr. | 319 |
| Liver Extract | | 517 |
| *Logwood* | | 261 |
| London Paste | | 43 |
| Loretin | | 297 |
| Losophan | | 297 |
| **Lotiforms of Sublimated Wool** | | 269 |
| **Lotio Acidi Benzoici** | | 2 |
| ,, ,, **Borici** | | 5 |
| ,, ,, Carbolici | | 10 |
| ,, **Calaminæ** | | 316 |
| ,, **Calcii Sulphurati** | | 121 |
| ,, **Hamamelidis** | | 263 |
| ,, Hydrargyri Acetica | | 269 |
| ,, ,, *Flava* | | 268 |
| ,, ,, *Nigra* | | 272 |
| ,, ,, Perchlor. | | 269 |
| ,, Pilocarpinæ (for the hair) | | 320 |
| ,, **Plumbi cum Lacte** | | 254 |
| ,, ,, **Lactatis** | | 254 |
| ,, Resorcini | | 121 |
| ,, **Rubra** | | 472 |
| ,, Sulphatum | | 473 |
| Lugol's Solution | 5 to 10 m. | 301 |
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| Lund's Oil | | 10 |
| *Lupulin* | 2 to 5 gr. | 320 |
| Lupulinæ, Tinctura | 10 to 60 m. | 320 |
| Lycaconitine | | 474 |
| Lycetol | 4 to 10 gr. | 398 |
| Lycoperdon Giganteum | | 482 |
| Lycopodium | | 321 |
| Lysidine | of sol. 10 to 30 m. | 398 |
| ,, Bitartrate | 5 to 15 gr. | 398 |
| Lysol | | 160 |
| Lytta | 1-16 to ½ gr. | 128 |
| Magendie's Solution of Morphine, 16 gr. in 1 oz. | | 336 |
| Magenta | ½ to 4 gr. | 168 |
| *Magnesia Levis* | 30 to 60 gr., or 5 to 30 gr. repeated | |
| ,, *Ponderosa* | 30 to 60 gr., or 5 to 30 gr. repeated | |
| Magnesii Boras | | 7 |
| ,, Borocitras | 15 to 30 gr. | 7 |
| ,, *Carbonas Levis* | 30 to 60, or 5 to 30 gr. repeated | |
| ,, *Carbonas Ponderosus* | 30 to 60, or 5 to 30 gr. repeated | |
| ,, Glycerophosphas | 3 to 10 gr. | 25 |
| ,, Gynocardas | | 356 |
| ,, Ricinoleas | | 359 |
| ,, *Sulphas* | ¼ to ½ oz, or 30 to 120 gr. repeated | |
| ,, ,, *Effervescens* | ½ to 1 oz., or 60 to 240 gr. repeated | 437 |
| ,, Sulphis | 10 to 30 gr. | 42 |
| Maidis Stigmata | | 482 |
| ,, Ustilago | | 482 |
| Malakine | 60 to 90 gr. | 169 |
| Malarial Parasites | | 541 |
| Male Fern | | 248 |
| ,, ,, Capsules | 1 to 4 | 249 |
| Mallein | | 497 |
| Malti Pulvis | 1 to 2 dr. | 321 |
| Maltine | 1 to 4 dr. | 322 |
| Malto-Viburnin | 1 to 4 dr. | 487 |
| ,, -Yerbine | 1 to 4 dr. | 487 |
| Maltum | | 321 |
| Mammary Glands, Extract of | | 517 |
| Manaca | | 482 |
| Mandragora Officinalis | | 482 |
| Manganesii Glycerophosphas | 1 to 5 gr. | 25 |
| ,, Hypophosphis | 1 to 10 gr. | 323 |
| ,, Oxidum Præcipitatum | 3 to 10 gr. | 323 |
| ,, Phosphas | 1 to 5 gr. | 323 |

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| Manganesii Sulphas ... ... | 2 to 10 gr. or more | 323 |
| Manganesium ... ... ... ... | ... ... ... | 32 |
| Manna ... ... ... ... ... | 1 dr. to 1 oz. | |
| Mannitol Nitrate, Hexonitrate ... | .. ... 1 gr. | 229 |
| ,, ,, Tablets ... ... | ... ... ... | 229 |
| Maragliano's Antitubercular Serum | .. ... ... | 51 |
| Margosa Bark ... ... ... ... | . .. | 48 |
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| Marking Nut ... ... ... ... | ... ... ... | 47 |
| Mass for Pessaries ... ... ... | ... ... ... | 25 |
| Mastiche ... ... ... ... ... | ... 1 to 20 gr. | |
| Maté ... ... ... ... ... | ... ... ... | 11 |
| Mayer's Reagent... ... ... ... | ... ... ... | 53 |
| McDade's Mixture ... ... ... | ... 1 to 4 dr. | 44 |
| Meat Extract ... ... ... ... | ... ... ... | 23 |
| ,, Juice ... ... ... ... | ... ... ... | 236 |
| ,, Lozenges ... ... ... ... | ... ... ... | 236 |
| Medullin ... ... ... ... ... | ... ... ... | 51 |
| *Melon Pumpkin Seeds* ... ... ... | ... ... ... | xxv |
| Menispermin ... ... ... ... | ... 1 to 5 gr. | 325 |
| Menstruation Diapers of Wood Wool | ... ... .. | 396 |
| *Menthol* ... ... ... ... ... | ½ to 2 gr. | 32 |
| ,, cum Aconitina ... ... ... | ... ... ... | 327 |
| ,, ,, Camphora ... ... ... | ... ... ... | 326 |
| ,, *Plaster* ... ... ... ... | ... ... ... | 327 |
| ,, Snuff ... ... ... ... | ... ... ... | 327 |
| ,, Wool ... ... ... ... | ... ... ... | 327 |
| Mentholeate ... ... ... ... | ... ... ... | 327 |
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| Menyanthes ... ... ... ... | ... . .. | 482 |
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| Mercuramalgam ... . . . | . . . | 264 |
| Mercur-β-Naphthol Acetate .. ... | ... ¼ gr. | 273 |
| Mercuric Chloride ... ... ... | ... ... ... | 199 |
| ,, Ethylene-Diamine Salts . | . . | 26 |
| ,, Iodide Oil ... ... ... | ... ... . | 263 |
| ,, Oleate . . . . | . . .. | 35 |
| ,, Stearate . | . .. | 35 |
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| Mercurol ... ... ... . . | . . . | 264 |
| Mercuro-Zinc Cyanide ... ... . . | ... ... ... | 265 |
| ,, ,, ,, Cream .. ... | ... ... ... | 265 |
| ,, ,, ,, Gauze .. ... | ... .. ... | 265 |
| ,, ,, ,, Paste . . . . | . | 265 |
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| Mercurous Tannate | 1½ gr. | 273 |
| **Mercury, Asparagin** | | 274 |
| „ Bicyanide | 1/20 to ¼ gr. | 264 |
| „ Formamide | | 274 |
| „ Nitroso-Nitrate | | 526 |
| „ ***Oleate*** | | 352 |
| „ „ **with Morphine** | | 353 |
| „ Oleo-Palmitate | | 332 |
| „ ***Perchloride*** | 1-32 to 1-16 gr. | 268 |
| „ „ Wood Wool | | 269 |
| Mescal Buttons | | 476 |
| Meta-iodo-ortho-oxychinolin-ana-sulphonic Acid | | 297 |
| Metaldehyde | 2 to 8 gr. | 59 |
| Metasol | | 289 |
| Meta-tri-iodo-cresol | | 297 |
| Methacetin | 2 to 6 gr. | 169 |
| Methyl-acetanilide | ½ to 2 gr. | 166 |
| Methylal | 15 to 30 m. | 330 |
| Methylated Spirit | | 57 |
| Methyl Chloridum | | 329 |
| „ **Di-iodo-salicylate** | | 292 |
| Methylene | | 330 |
| „ **Blue** | 1 to 4 gr. | 169 |
| Methylic Alcohol | | 58 |
| *Methyl-Orange* | | 538 |
| Methyl-propyl-phenol Hexahydride | | 326 |
| „ **Salicylate** | | 31 |
| „ **Thebaine** | | 344 |
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| **Michel's Paste** | | 41 |
| Microcidine | | 340 |
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| Migranin | 8 to 15 gr. | 117 |
| **Milk, Artificial Human** | | 366 |
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| Milk Somatose | | 237 |
| Millard's Reagent | | 528 |
| **Millon's Reagent** | | 526 |
| Miscellaneous Tests | | 536 |
| Mistletoe | 10 to 60 gr. | 487 |
| **Mistura Aloes** | 1 to 4 dr. | 65 |
| „ ***Ammoniaci*, with Syrup of Tolu, 1 in 16** | ½ to 1 oz. | |
| „ *Amygdalæ* | ½ to 1 oz. | |

| NAME. | DOSE. | PAGE |
|---|---|---|
| Mistura Amyl Nitritis ... ... .. . | 1 to 2 dr. | 72 |
| ,, Anti-choleraica ... . . | 1 oz. | [illegible] |
| ,, Antiseptica U.C.H. | ...for 1 year old, 1 dr. | 358 |
| ,, Apomorphinæ et Terebeni ... ... | 1 oz. | [illegible] |
| ,, Bismuthi ... | 1 oz. | [illegible] |
| ,, ,, Composita | 20 to 30 m. | [illegible] |
| ,, Bromoformi . .. | [illegible] | [illegible] |
| ,, Butyl-Chloral ... . . | 1 oz. | 112 |
| ,, Chlori cum Quinina . .. | 1 oz. | 417 |
| ,, *Creosoti* ... ... ... | .. ½ to 1 oz. | 295 |
| ,, *Cretæ* ... ... ... . | [illegible] | 119 |
| ,, Diarrhœica ... .. . ... | [illegible] | [illegible] |
| ,, Exalgin ... . | . 2 to [illegible] | 166 |
| ,, Ferri Amara .. ... | 1 oz. | [illegible] |
| ,, ,, Aperiens .. .. | 1 oz. | 241 |
| ,, ,, Aromatica ... . ... | .. 1 to 2 oz. | [illegible] |
| ,, ,, Arsenicalis ... ... | . to 1 oz. | 241 |
| ,, ,, *Composita* ... .. | to 1 oz. | 239 |
| ,, ,, Perchloridi ... .. . | 1 oz. | 241 |
| ,, ,, Salina ... ... ... . | 1 oz. | 241 |
| ,, Filicis ... ... ... ... . . | 1 oz. | 249 |
| ,, Gentianæ .. ... ... | to 1 oz. | |
| ,, Gentianæ Composita, P.L. . . | to 2 oz. | |
| Inf. Gent. Co., 12 oz.<br>Inf. Sennæ Co., 6 oz.<br>Tr. Card. Co., 2 oz. | | |
| ,, Grindeliæ ... ... ... | 1 oz. | [illegible] |
| ,, *Guaiaci* . . | . to 1 oz. | |
| ,, Guaiacol ... ... | ... .. | [illegible] |
| ,, Laxativa | .. ¼ to [illegible] | 134 |
| ,, Mucilaginosa .. . | | 77 |
| ,, *Olei Ricini* ... ... ... | ... 1 to [illegible] | 358 |
| ,, ,, Santali .. ... ... | ... 1 oz. | [illegible] |
| ,, [illegible] | 1 [illegible]. | [illegible] |
| ,, [illegible] | [illegible] | |
| ,, [illegible] | ... 1 to 2 [illegible]. | [illegible] |
| ,, [illegible] | ... 1 to 2 [illegible] | |
| ,, Terebinthinæ Chiæ ... | ... 1 to [illegible] dr. | [illegible] |
| Mistura Sulphurica Acida | | 41 |
| Mollinum . | | 330 |
| ,, Hydrargyri ... ... ... | | 331 |
| ,, Potassii Iodidi | | [illegible] |
| Momordicin . | 1-40 to 1-10 gr. | 221 |
| Monobromacetanilide .. ... | ... 3 to 15 gr. | 162 |
| Monobromated Camphor ... | ... 2 to 10 gr. | 125 |
| Monobromphenylacetamide ... | ... 3 to 15 gr. | 162 |

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| Monochlorethyl Chloride | | 250 |
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| Mono-Methyl Xanthine | | 156 |
| Monophenetidin Citrate | 8 to 30 gr. | 161 |
| Monophenylamine | | 163 |
| Monsel's Salt | | 247 |
| ,, Solution | 5 to 15 m. | 247 |
| Monsonia Ovata | | 182 |
| *Morphina, Morphine* | 1-10 to 1/3 gr. | 331 |
| *Morphinated Water* | | 332 |
| *Morphinæ Acetas* | 1-8 to ½ gr. | 332 |
| ,, Hydrobromidum | 1-8 to ½ gr. | 334 |
| ,, *Hydrochloridum* | 1-8 to ½ gr. | 334 |
| ,, Meconas | 1-8 to ½ gr. | 335 |
| ,, Oleatum, 1 to 60 | | 332 |
| ,, Sulphas | 1-8 to ½ gr. | 336 |
| ,, *Tartras* | 1-8 to ½ gr. | 336 |
| *Morrhuæ Oleum* | 1 to 4 dr. | 357 |
| Morrhuol | | 357 |
| Morton's Fluid | | 300 |
| *Moschus* | 5 to 10 gr. | |
| *Mucilago Acaciæ*, 2 fl. oz.=1 oz. rinsed gum | ad lib. | |
| ,, Amyli, 12 gr. to 1 oz. | | |
| ,, *Gummi Indici* | | xxvi |
| ,, *Tragacanthæ* | 1 dr. to 1 oz. | 160 |
| Mucilages | | xxv |
| Mullein, Great | | 168 |
| Mulls, Plaster | | 556 |
| Muscarinæ Nitrate | | 182 |
| Mydrine | | 94 |
| Myosin | | 516 |
| [illegible] | [illegible] | [illegible] |
| Mynsicht's Elixir of Vitriol | 3 to 10 m. | 10 |
| [illegible] | | 471 |
| [illegible] | ½ to 1 dr. | [illegible] |
| [illegible] | 1 or 2 | 224 |
| [illegible] | | 177 |
| [illegible] | 2 to 5 gr. | 338 |
| *Myrrha* | 10 to 20 gr. | |
| Myrtol | 5 to 15 m. | 482 |
| Myrtus Chekan | | 178 |
| Naftalan | | 183 |
| Naphthalene, or Naphthalin, | 2 to 15 gr. | 312 |
| Naphthalene Dichloride | | 312 |
| ,, Tetrachloride | 3 to 12 gr. | 312 |

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| Naphthalol | | 341 |
| *Naphthol a-* | | 339 |
| ,, β- | 3 to 10 gr. | 338 |
| ,, Benzoate | | 339 |
| ,, Bismuth | 10 to 30 gr. | 107 |
| ,, Camphor | | 341 |
| ,, Mercury | ¾ gr. | 273 |
| Naphthoxol | | 279 |
| Narceina | 1-8 to 1 gr. | 343 |
| Narcotina | 1 to 3 gr. | 343 |
| Nargol | | 133 |
| Nasal Douches—Collunaria | | |
| Nasrol | 10 to 15 gr. | 117 |
| Nataloin | ½ to 2 gr. | 65 |
| **Natrium Sulphuricum Siccum** | ½ to 2 dr. | 136 |
| **Nebula Acidi Lactici, 1 in 16** | | 21 |
| ,, **Ferri Perchloridi, 3 gr. in 1 oz.** | | 240 |
| Nectandra Rodiaei | | 98 |
| Neem, Nim | | xxv, 483 |
| Nelli | | 224 |
| Neo-Kola | | 114 |
| Nepaul Aconite | | 474 |
| **Nepenthe=strength of Tr. Opii** | 5 to 30 m. | |
| Nessler's Solution for Ammonia | | 536 |
| Neurodin | 5 to 15 gr. | 170 |
| Nicotina | 1-6 to 1 gr. | 344 |
| Nicotinæ Salicylas | | 344 |
| ,, Tartras | | 344 |
| Nilicamam | | 224 |
| Nirvanin | | 193 |
| Nitrite of Ethyl | | 50 |
| ,, *Amyl* | ½ to 1 m. by mouth<br>2 to 5 m. inhaled | 71 |
| ,, Isobutyl | 2 to 5 m. inhaled | 73 |
| ,, Sodium | 1 to 2 gr. | 133 |
| Nitro-erythrite | | [illegible] |
| Nitroglycerin | 1-200 to 1-50 gr. or more | 345 |
| ,, *Solution* | ½ to 2 m. or more | 346 |
| ,, *Tablets* | 1-200, 1-100, 1-50 & 1-25 gr. in each | 346 |
| Nitrometer, Allen's | | 71 |
| Nitro-mannite | 1 gr. | 229 |
| ,, -propiol, Test for Sugar in Urine | | 553 |
| Nitroso-Nitrate of Mercury | | 526 |
| Nitrous Ether | | 50, 59 |
| ,, Oxide Gas | | 69 |
| Nosophen | 3 to 8 gr. | 297 |

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| Nuclein | | 136 |
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| Nucleohiston | | 521 |
| Nutrient Agar | | 543 |
| ,, Broth | | 542 |
| ,, Gelatin | | 542 |
| *Nux Vomica* | 1 to 4 gr. | 350 |
| Oil, Sterilised | | 209 |
| ,, Vaseline | | 371 |
| ,, *of Lemon Grass* | | xxviii |
| ,, *of Verbena* | | xxviii |
| Oil of Wine | | 50 |
| ,, *Wintergreen* | | xxviii, 31 |
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| Oleanodyne | | 352 |
| Oleata | | 351 |
| Oleate of Copper | | 352 |
| ,, *Mercury* | | 352 |
| ,, ,, and Morphine | | 353 |
| ,, *Zinc* | | 355 |
| Oleatum Aconitinæ, 1 gr. in 50 m. | | 46 |
| ,, Atropinæ, 1 to 40 | | 90 |
| ,, *Hydrargyri*, 5, 10, and 20 per cent. | | 353 |
| ,, ,, cum Morphina | | 353 |
| ,, Morphinæ, 1 gr. in 60 m. | | 332 |
| ,, Plumbi | | 354 |
| ,, Quininæ, 1 in 4 | | 351 |
| ,, Veratrinæ, 1 in 50 | | 467 |
| ,, *Zinci* | | 355 |
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| Oleo-creosote | 10 to 30 m. | 208 |
| ,, -resina Cubebæ | 5 to 30 m. | 213 |
| Oleum Æthereum, Oil of Wine | | 50 |
| ,, *Ajowan* | ½ to 3 m. | xxviii, 457 |
| ,, *Anethi* | ½ to 3 m. | |
| ,, *Anisi* | ½ to 3 m. | |
| ,, *Anthemidis* | ½ to 3 m. | |
| ,, *Arachis* | | xxviii |
| ,, Atropinæ | | 90 |
| ,, Betulæ Pyroligneum | | 402 |
| ,, *Cadinum* | | 402 |
| ,, *Cajuputi* | ½ to 3 m. | |
| ,, Camphoratum | | 124 |
| ,, ,, Forte | | 124 |
| ,, *Carui* | ½ to 3 m. | |
| ,, *Caryophylli* | ½ to 3 m. | |

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| Oleum Chloroformii | | 148 |
| ,, *Cinnamomi* | ½ to 3 m. | |
| ,, *Copaibæ* | 5 to 20 m. | |
| ,, *Coriandri* | ½ to 3 m. | |
| ,, *Crotonis* | ½ to 1 m. | |
| ,, *Cubebæ* | 5 to 20 m. | 213 |
| ,, cum Cocaina, 2 per cent. | | 181 |
| ,, Deelinæ | | 369 |
| ,, *Eucalypti* | ½ to 3 m. | 230 |
| ,, Fagi Pyroligneum | | 402 |
| ,, Gaultheriæ | 10 m. | xxviii 31 |
| ,, *Graminis Citrati* | | xxviii |
| ,, *Gynocardiæ* | 5 to 60 m. | xxviii, 356 |
| ,, Homatropinæ | | 93 |
| ,, ,, cum Cocaina | | 94 |
| ,, Hyoscinæ | | 282 |
| ,, *Juniperi* | ½ to 3 m. | |
| ,, ,, Pyroligneum | | 402 |
| ,, *Lavandulæ* | ½ to 3 m. | |
| ,, *Limonis* | ½ to 3 m. | |
| ,, Lubricans | | 10 |
| ,, *Menthæ Piperitæ* | ½ to 3 m. | |
| ,, ,, *Viridis* | ½ to 3 m. | |
| ,, *Morrhuæ* | 1 to 4 dr. | 357 |
| ,, ,, cum Æthere | 2 dr. | 49 |
| ,, ,, Phosphoratum | 1 to 4 dr. | 378 |
| ,, ,, cum Quinina | 1 to 4 dr. | 351 |
| ,, *Myristicæ* | ½ to 3 m. | |
| ,, Neroli | | 95 |
| ,, Nitroglycerini, 1 per cent. | 1 to 2 m. | 346 |
| ,, *Olivæ* | ¼ to 1 oz. | |
| ,, *Phosphoratum* | 1 to 5 m. | 378 |
| ,, Picis Rectificatum | | 401 |
| ,, *Pimentæ* | ½ to 3 m. | |
| ,, *Pini Pumilionis* | | 396 |
| ,, ,, Sylvestris | | 396 |
| ,, *Ricini* | 1 to 8 dr. | 358 |
| ,, *Rosæ, syn. Otto of Rose* | | 359 |
| ,, *Rosmarini* | ½ to 3 m. | |
| ,, Rusci Pyroligneum | | 402 |
| ,, Rutæ | 1 to 4 m. | |
| ,, Sabinæ | 1 to 4 m. | |
| ,, *Santali* | 5 to 30 m. | 359 |
| ,, Sassafras | | 484 |
| ,, *Sesami* | | xxviii, 109 |
| ,, Sinapis Expressum | | 428 |

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| Oleum Sinapis Volatile | | 428 |
| ,, Staphisagriæ | | 216 |
| ,, *Terebinthinæ* | 2 to 10 m., Anthelmintic 3 to 4 dr. | 395 |
| ,, ,, Gallicum | 30 m. every ½ hour. | 376 |
| ,, Theobromatis | | 455 |
| Oliver Bark | | xxviii |
| *Oliveri Cortex* | | xxviii, 483 |
| Ophthalmic Discs :— | | |
| Alum | 1-250 gr. | 66 |
| Atropine | 1-500, 1-250 gr. | 89 |
| ,, B.P. | 1-5000 gr. | 89 |
| Borax | 1-250 gr. | |
| Cadmium Sulphate | 1-250 gr. | |
| Cocaine | 1-100, 1-200 gr. | 184 |
| ,, B.P. | 1-50 gr. | 184 |
| { ,, | 1-200 gr. } | 90 |
| { Atropine | 1-5000 gr. } | |
| { Cocaine | 1-200 gr. } | 94 |
| { Homatropine | 1-5000 gr. } | |
| { Cocaine | 1-200 gr. } | 94 |
| { Homatropine | 1-200 gr. } | |
| { Cocaine | 1-200 gr. } | 388 |
| { Physostigmine | 1-1000 gr. } | |
| Copper Sulphate | 1-250 gr. | |
| Daturine | 1-5000 gr. | 216 |
| Duboisine | 1-5000 gr. | 220 |
| Euphthalmine | 1-100, 1-50 gr. | |
| Gallic Acid | 1-250 gr. | |
| Gelseminine | 1-500 gr. | 251 |
| Homatropine | 1-5000 gr. | 94 |
| ,, B.P. | 1-100 gr. | 93 |
| Hyoscine | 1-500, 1-200 gr. | 283 |
| Hyoscyamine | 1-5000 gr. | 286 |
| Iodoform | 1-1000 gr. | 292 |
| Lead Acetate | 1-500 gr. | |
| { Lead | 1-500 gr. } | |
| { Opium | 1-250 gr. } | |
| Mercuric Chloride | 1-100,000 gr. | 269 |
| Morphine | 1-500 gr. | 333 |
| { ,, | 1-500 gr. } | 89,333 |
| { Atropine | 1-5000 gr. } | |
| *Physostigmine* | 1-1000 gr. (off.) 1-500, 1-250 gr. | 388 |
| Pilocarpine | 1-500 gr. | 310 |
| Potassium Nitrate | 1-250 gr. | 406 |
| Scopolamine | 1-200 gr. | 283 |
| Silver Nitrate | 1-500 gr. | 79 |
| Thymol | 1-1000 gr. | 408 |

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| Ophthalmic Discs:— | | |
| Zinc Sulphate | 1-250 gr. | 473 |
| " | 1-250 gr. | 473 |
| Opium | 1-250 gr. | |
| *Opium* | ½ to 2 gr. | 361 |
| Orchidin | | 518 |
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| Orexine | 3 gr. | 170 |
| " Tannate | 1 to 8 gr. | 170 |
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| Orizabin | 2 to 6 gr. | 313 |
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| Orphol | 10 to 30 gr. | 107 |
| Orris Root | | 315 |
| Orthoform | 1½ to 3 gr. | 194 |
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| Ouabaïn | | 143 |
| Ourari | 1-30 to ½ gr. | 213 |
| Ovary Juice, Ovarin | | 517 |
| Oxide of Ethyl | 10 to 60 m. | 47 |
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| Oxychloride of Bismuth | 5 to 20 gr. | 104 |
| " " Iron | | 241 |
| " " Zinc | | 169 |
| Oxydol | | 278 |
| Oxygen | | 279 |
| Oxyiodide of Bismuth | 5 to 10 gr. | 104 |
| *Oxymel* | 1 to 2 dr. | |
| " *Scillæ* | ½ to 1 dr. | |
| " *Urgineæ* | ½ to 1 dr. | xxx |
| Oxymethyl-acetanilide | 2 to 6 gr. | 169 |
| Oxysparteina | ½ to 1½ gr. daily | 139 |
| Oxysparteinæ Hydrochloridum | ½ to 1½ gr. daily | 139 |
| Oxytoluyltropeine | | [illegible] |
| Oxytuberculin | | 511 |
| Ozokerine | | 370 |
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| Pansy, Wild | 10 to 60 gr. | 487 |
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| Papaw Milk or Juice | 3 to 10 gr. | 367 |
| Papayotin | 1 to 8 gr. | 367 |
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| ,, -phenetidin | 5 to 10 gr. | 171 |
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| ,, *Molle* | | 369 |
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| *Paraldehydum, Paraldehyde* | ½ to 2 dr. | 59 |
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| Parataloid, *syn.* Tuberculin | | 507 |
| Para-tolyl-dimethyl-pyrazolone | 5 to 20 gr. | 176 |
| ,, ,, ,, Salicylate | 5 to 20 gr. | 176 |
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| ,, Ammonii Chloridi, 2 gr. in each | | 255 |

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| Pastillus Apomorphinæ, gr. $\frac{1}{22}$, cum Codeinæ, gr. [illegible] ... | | 255 |
| ,, Bismuthi Carbonatis, 3 gr. in each ... ... ... | | 255 |
| ,, ,, ,, cum Morphinæ Acetate, 3 gr. and 1-40 gr. ... ... ... ... ... ... | | 255 |
| ,, Bismuthi Carbonatis cum Potassii Chlorate, 3 and 2 gr. ... ... ... ... ... ... | | 256 |
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| ,, Cocæ Extracti, $2\frac{1}{2}$ gr. ... ... ... ... | | 179, 256 |
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| ,, Codeinæ, 1-8 gr. in each ... ... ... ... | | 195 |
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| ,, Menthol, $\frac{1}{6}$ gr. ... ... ... ... ... | | 256, 327 |
| ,, Morphinæ Acetatis, 1-30 gr. in each ... ... | | 256 |
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| ,, Sulphas ... ... ... ... | 5 to 8 gr. | 372 |
| ,, Tannas ... ... ... ... | 5 to 8 gr. | 373 |
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| *Pepsin* ... ... ... ... ... ... | 5 to 10 gr. | 373 |
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| ,, ,, and Quinine, Solution of | 1 to 4 dr. | 244 |
| ,, Milk | | 365 |
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| Periodate Crystals and Powder | 1 to 15 gr. | 299 |
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| ,, Chloroform | 1 or 2 | 149 |
| ,, Creosote, 1 and 3 m. | 1 to 4 | 205 |
| ,, Ether, 3 m. in each | 1 to 4 | 49 |
| ,, ,, and Turpentine | 1 to 4 | 49 |
| ,, Guaiacol, 1, 2, and 3 m. | 1 or 2 | 209 |
| ,, Monobromated Camphor, 2 gr. | 1 to 3 | 125 |
| ,, Phosphorated Oil, $\frac{1}{100}$, $\frac{1}{65}$, and $\frac{1}{32}$ gr. | 1 or 2 | 378 |
| ,, Quinine Sulphate | 1½ gr. in each | 417 |
| ,, Tar | 1 or 2 | 401 |
| ,, Turpentine, Venice | 3 m. | |
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| Peronin | ⅛ to ½ gr. | 338 |
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| Peroxide of Hydrogen | ½ to 2 dr. | 277 |
| ,, of Sodium | | 279 |
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| ,, with Cacao Butter | 15 gr. or 60 gr. in each | |
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| ,, ,, Tannici, 10 gr. | | |
| ,, Atropinæ, 1-20 gr. | | 90 |
| ,, Belladonnæ Ext. Alc., 1½ and 3 gr. | | 102 |
| ,, Bismuthi Oxychloridi, 10 gr. | | 104 |
| ,, Cocainæ, ½ gr. | | 182 |
| ,, Coninæ, ½ m. | | 201 |
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| ,, Plumbi Iodidi, 5 gr. | | |
| ,, { ,, Iodidi, 5 gr.<br>Atropinæ, 1-20 gr. } | | |
| ,, Potassii Bromidi, 10 gr. | | |
| ,, ,, Iodidi, 10 gr. | | |
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| ,, Effervescens S° | 1 to 2 dr. | 173 |
| Phenic Acid | 1 to 3 gr. | 7 |
| Phenocoll Hydrochloridum | 7 to 15 gr. | 176 |
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| *Phenol* | 1 to 3 gr. | 7 |
| ,, Bismuth | 10 to 30 gr. | 108 |
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| ,, Mercury | ½ to 2 gr. | 264 |
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| ,, Salicylas | 5 to 15 gr. | 36 |
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| ,, Sodique | | 15 |
| Phenosalyl | 1 to 2 m. | 6 |
| Phenyl-acetamide | 1 to 3 gr. | 160 |
| ,, Alcohol | 1 to 3 gr. | 7 |
| ,, -amine, *syn.* Aniline | | 163 |
| ,, -benzamide | 3 to 12 gr. | 164 |
| ,, -dihydro-chinazolin | 3 gr. | 170 |
| ,, -dimethyl iso-pyrazolone | 5 to 20 gr. | 172 |
| ,, -formamide | 1 to 4 gr. | 167 |
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| ,, ,, Hydrochloride | | 533 |
| ,, -hydrazin-lævulinic Acid | 8 gr. | 164 |
| ,, -methyl Acetone | 1½ to 5 m. | 162 |
| ,, *Salicylas* | 5 to 15 gr. | 36 |
| ,, -urethane | 3 to 6 gr. | 465 |
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| Aloes Soc., 1 gr.<br>Rhei, 1 gr.<br>Mastich. 1 gr. ... ... | 1 with dinner | |
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| Coninæ Hydrobromidi, [illegible] gr. | ... ... ... | 201 |
| Creosoti, 1 in 2 ... ... ... | ... 2 to 6 gr. | 205 |
| Cupri Composita. *Mid. Hosp.* | 1 as required | 362 |
| Damianæ Compositæ ... ... | 1 thrice daily | 215 |
| Digitalis Fol., ½ gr. ... ... | 1 thrice daily | |
| „ Opii et Quininæ (Heim's) | | |
| Digitalis, ½ gr.<br>Opii Pulv., ¼ gr.<br>Quininæ Sulph., 1 gr.<br>Ipecac., ¼ gr. | ... 1 thrice daily | |
| „ Composita ... | ... ... ... | 217 |

| Name. | Dose. | Page |
|---|---|---|
| Pilulæ :— | | |
| Easton's | 2 or 3 daily | 247 |
| Ergotini, 1, 2, or 3 gr. | | 225 |
| Euonymin, 2 gr. | | 234 |
| Exalgin, 1 gr. | | 166 |
| Ferri Aloes et Belladonnæ, U.C.H. | | 63 |
| ,, Arsenicalis | | 83 |
| ,, (*Blaud*) | 5 to 15 gr. | 238 |
| ,, Carbonici | | 239 |
| ,, ,, Blaudii | | 239 |
| ,, Carb. Sacch. 4 gr., cum Syr. | 1 to 4 | 238 |
| ,, Glycerophosphatis | 1 with meals | 24 |
| ,, Hypophosphitis cum Strychnina | 2 or 3 daily | 384 |
| ,, Iodidi, 1 in 3½ | 3 to 8 gr. | 245 |
| ,, Quininæ et Strychninæ Phosph. | 2 or 3 daily | 247 |
| ,, ,, ,, ,, c Acid. Arsen. | | 247 |
| ,, Sulph. Exsicc., 3 gr., 5 gr., cum Syr. | 2 or 3 daily | 247 |
| ,, Redacti, 1 gr. and 2 gr. | 2 or 3 daily | |
| ,, cum Strychnina, T. H. | | |
| Ferri Sulph., 1 gr.<br>Strychninæ Sulph., 1-30 gr.<br>Glyc. Tragac., *q.s.* | 2 or 3 daily. | |
| *Galbani Compositæ* | 4 to 8 gr. | |
| Asafetida, Galbanum<br>Myrrh, of each 2<br>Syrup of Glucose, 1 | 4 to 8 gr. | |
| Gelsemin (Extractive), ¼, ½, 1 gr. | 1 at bedtime | 251 |
| Gossypii Compositæ | 3 or 4 daily | 259 |
| Grindeliæ Ext., 3 gr. | 1 thrice daily | 260 |
| *Hydrargyri* (1 in 3), 1 gr., 2 gr., 3 gr., 4 gr., and 5 gr. | | |
| Pil. Hydrarg., 2½ gr.<br>Pil. Coloc. Co., 2½ gr. | 1 or 2 | |
| Pil. Hydrarg., 1½ gr.<br>Pil. Coloc. Co., 2 gr.<br>Ipecac., 1-3 gr.<br>Ext. Hyoscyam., 1 gr. | 1 or 2 | |
| Pil. Hydrarg., 2½ gr.<br>Pil. Rhei Co., 2½ gr. | 1 or 2 | |
| Pil. Hydrarg., 3 gr.<br>Hydr. Subchlor., 1-3 gr.<br>Ipecac., 1-3 gr. | 1 or 2 | |
| Pil. Hydrarg., 3 gr.<br>Opii Pulv., ¼ gr. | 2 or 3 times a day | |
| Hydrarg. cum Creta, 1-3 gr., | ½ gr. every 1 or 2 hrs. | |
| Hydrarg. cum Creta ⅓ gr.<br>Pulv. Ipecac. Co. 3 gr. | 1 every 4 hours | |
| Hydrarg. cum Creta, 2 gr.<br>Pulv. Ipecac. Co., 3 gr. | 1 or 2 | |

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|---|---|---|
| Pilulæ :— | | |
| Hydrarg. Cyanidi, 1-12 gr. and 1-10 gr. | 1 twice daily | 265 |
| Hydrargyri Gallatis, ½ gr. and 1 gr. | 3 or 4 daily | 266 |
| Hydrarg. Iodidi Rub., 1-16 gr. | 1 twice daily | |
| Hydrarg. Iodidi Rubri, ⅛ gr., et Potassii Iodidi, 4 gr. | | 267 |
| Hydrarg. Iodidi Virid. | 1-6 gr. and 1-3 gr. | 267 |
| Hydrarg. Iodidi Virid., ½ gr.<br>Opii Pulv., ¼ gr. | | |
| Hydrarg. Perchloridi, 1-12 gr., 1-20 gr. and 1-40 gr. | | |
| Hydrarg. Subchloridi. ½ gr., 1 gr., 2 gr., and 3 gr. | | |
| *Hydrarg. Subchloridi Compositæ* | 4 to 8 gr. | 272 |
| Hydrarg. Subchlor., 2 gr.<br>Opii Pulv., 1 gr. | one | |
| Hydrarg. Subchlor., 1 gr.<br>Opii Pulv., ¼ gr. | every 4 hours | |
| Hydrarg. Subchlor., 2 gr.<br>Pil. Coloc. Co., 2 gr.<br>Ext. Hyoscyami, ½ gr. | 1 or 2 at bedtime | |
| Hydrargyri Tannatis, 1½ gr. | 1 thrice daily | 273 |
| Hydrastin, 2 gr. | 1 twice a day | 275 |
| Hyoscinæ Hydrobrom. 1-200 and 1-100 gr. | | 283 |
| Hyoscyaminæ, 1-250 gr. | 1 hourly | 286 |
| Ichthyol, Lithium- and Sodium- | 4 to 12 daily | 287 |
| Iodoformi, 2 gr. | 1 twice or thrice a day | 293 |
| Ipecacuanhæ, 1-5 gr. and ½ gr. | | |
| Ipecac. Co., Pulv., 5 gr. | 1 or 2 | |
| *Ipecacuanhæ cum Scilla* (5 % Opium) | 4 to 8 gr. | 305 |
| „ *cum Urginea* | 4 to 8 gr. | xxix |
| Iridin, 2 gr. | 1 at bedtime | 306 |
| Jalapæ | 1 to 3 | 313 |
| Kava-Kava Ext., 3 gr. | 1 to 4 | 481 |
| Kreosoti | | 205 |
| Menispermin, 2 gr. | 1 at bedtime | 325 |
| Morphinæ Hydrochl., ¼ gr. | | |
| Naphthalini | 3 gr. | 342 |
| Nitroglycerini, 1-100 gr. and 1-50 gr. | | 316 |
| Nucis Vomicæ Ext., 1-10 gr. and ¼ gr. | | |
| Olei Crotonis, 1 m. | | |
| Opii Pulveris, gr. ½ and gr. 1 | | |
| Orexin, 3 gr. | 1 to 3 | 170 |
| Pancreaticæ | 1 after meals | 365 |
| Pepsin, 2 gr. and 3 gr. | | 374 |
| *Phosphori*, 2 %. | 1 to 2 gr. | 379 |
| „ (Martindale), 1-100 gr., 1-50 gr., and 1-30 gr. | 1 after meals | 379 |
| Phosphori cum Ferro | „ | 380 |
| „ cum Ferro et Nuce Vomica | „ | 380 |

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|---|---|---|
| Pilulæ :— | | |
| Phosphori cum Ferro et Quinina . | ,, | 380 |
| ,, Ferro, Quinina et Strychnina | ,, | 380 |
| ,, Nuce Vomica . . ... ... ... | | 380 |
| ,, Quinina .. ... . . | ,, | 380 |
| ,, Strychnina ... | 1 after meals | 380 |
| ,, Strychnina et Ferro | ,, | 381 |
| Physostigmatis Extracti, 1-15 gr., 1-10 gr.... ... | | 386 |
| Picis Liquidæ, 2 gr. ... ... ... | 1 or 2 | 401 |
| Picrotoxini, 1-60 gr. ... ... | 1 at bedtime | 383 |
| Pilocarpinæ Nitratis, 1-20 gr.... ... ... ... | | 310 |
| *Plumbi cum Opio* (12½% Opium) ... | 2 to 4 gr. | 362 |
| Plummer's .. ... ... ... ... | 4 to 8 gr. | |
| Podophyllin, 1-30 gr., 1-20 gr., 1-15 gr., ¼ gr., ½ gr., and 1 gr. ... ... ... ... | | 403 |
| Podophyllin Composita (Resin ¼ gr.) ... ... ... ... | 1 or 2 at bedtime | 404 |
| Podophyllin (Resin 1-12 gr.) et Quininæ | with dinner | 404 |
| Potassii Bichromatis, 1-12 gr. . . | 1 thrice daily | 405 |
| ,, Permanganatis, 1, 2, and 3 gr. ... ... | | 325 |
| Quininæ, 1 gr., 2 gr., 3 gr., and 4 gr. ... .. | | 416 |
| ,, cum Belladonna ... ... ... ... | | 101 |
| ,, Salicylatis, 3 gr. ... | every 6 hours | 415 |
| ,, *Sulphatis* ... ... | 2 to 8 gr. | 417 |
| ,, Sulph., 1 gr.<br>Ferri Sulph. Exsicc., 2 gr.<br>Ext. Belladonnæ, 1-10 gr. .. | 1 thrice daily | |
| Quininæ Sulph., 1 gr.<br>Ferri Sulph. Exsicc., 1 gr.<br>Ext. Cannabis Ind., ½ gr. ... | 1 thrice daily | |
| Quininæ Sulph., 1 gr.<br>Ferri Sulph. Exsicc., 1 gr.<br>Ext. Cannabis Ind., ½ gr.<br>Aloes Socotrinæ, 1-3 gr. ... | 1 thrice daily | |
| *Rhei Compositæ*, 2½ gr., 3 gr., 4 gr. and 5 gr.... ... ... ... ... | 4 to 8 gr. | 64 |
| Pil. Rhei Comp., 4 gr.<br>Ext. Nucis Vom., ½ gr. | 2 or 3 times daily. | |
| Pil. Rhei Comp., 2½ gr.<br>Ext. Taraxaci, 2½ gr. | at dinner or bedtime | |
| *Saponis Compositæ* (2% Opium) .. | 2 to 4 gr. | 362 |
| *Scammonii Compositæ* .. ... | 4 to 8 gr. | |
| *Scillæ Compositæ* ... ... ... ... | 4 to 8 gr. | |
| Sodii Cacodylatis ... ... ... ... .. | | 86 |
| Sparteinæ Sulphatis, ¼ gr. ... ... ... ... | | 439 |
| Strophanthi, Tinct. 4 m. and 8 m. ... ... | 1 to 3 | 444 |
| Strychninæ, 1-100 gr., 1-36 gr., 1-24 gr. and 1-20 gr. ... ... ... ... ... ... | | 445 |
| Sulphatum ... ... | 2 thrice daily | 122 |

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| Pilulæ :— | | |
| Terebinthinæ Chiæ, 3 gr. | 2 every 4 hours | 451 |
| ,, ,, et Zinci | 1 to 3 | 451 |
| Trium Phosphatum | | 247 |
| ,, Valerianatum | | 420 |
| *Urgineæ Composita* | 4 to 8 gr. | xxix |
| Zinci cum Belladonnâ | 1 or 2 | 472 |
| ,, Phosphidi, 1-6 gr. | 1 thrice daily | 331 |
| ,, Valerianatis, 3 gr. | ,, | 473 |
| ,, Valerianatis, 1 gr.<br>Pil. Asafetidæ Co., 2 gr. } T. II. | 1 or 2 | 473 |
| Fine Cure | | 396 |
| Pinol | | 396 |
| Pinus Maritima | | 376 |
| ,, Pumilio | | 396 |
| ,, Sylvestris | | 395 |
| Piper Methysticum | | 481 |
| Piperazina, Piperazine | 4 to 10 gr. | 397 |
| Piperazine, Acid Tartrate | 15 gr. | 212 |
| ,, Effervescent | 1 dr. | 397 |
| ,, with Phenocoll | 1 dr. | 397 |
| ,, Quinate | daily 30 gr. | 399 |
| ,, Water, Aërated | | 397 |
| Piperidine Guaiacolate | 5 to 30 gr. | 212 |
| Piperin, Piperinum | 1 to 10 gr. | 399 |
| Piperonal | | 489 |
| Pipmenthol | | 326 |
| Piscidia | | 490 |
| Pitayo Bark | | 154 |
| Pitcher Plant | | 484 |
| Pitchery | | 220 |
| Pituitary Gland, Extract of | | 518 |
| Pituri | | 220 |
| Piturine | | 220 |
| *Pix Carbonis Præparata* | | 159 |
| ,, *Liquida* | 2 to 10 gr. | 400 |
| Plague Serum | | 497 |
| Plasmon | | 237 |
| Plaster Mulls | | 529 |
| Pleurisy Root | | 477 |
| *Plumbi Acetas* | 1 to 5 gr. | |
| ,, *Emplastrum* | | 355 |
| ,, Oleatum | | 354 |
| ,, Oleatis Ungnentum | | 355 |
| ,, *Subacetatis Glycerinum* | | 254 |
| Plummer's Pill | 4 to 8 gr. | 272 |

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|---|---|---|
| Pneumonia Serum | | 498 |
| Po' de Bahia, Goa Powder | | 151 |
| *Podophylli Resina* and *Indica* | $\frac{1}{30}$ to 1 gr. | xxviii, 402 |
| ,, *Rhizoma* and *Indica* | | xxviii, 403 |
| Podophyllic Acid | | 403 |
| Podophyllin | 1-30 to 1 gr. | 402 |
| Podophyllotoxin | 1-10 to 1-8 gr. | 403 |
| Po-ho-yo | | 328 |
| Points of Alum | | 66 |
| ,, Copper Sulphate | | 66 |
| ,, Zinc Sulphate | | 473 |
| ,, ,, ,, and Alum | | 473 |
| Poison Oak, or Ivy | | 423 |
| Poke Root | | 389 |
| Polyporus Officinalis | | 53 |
| *Pomegranate, Bark of Root* | | 372 |
| Pommade aux Concombres | | 213 |
| Pond's Extract | | 262 |
| Posology | | xvii |
| Potassa cum Calce | | 405 |
| ,, *Sulphurata, syn.* Liver of Sulphur | 2 to 8 gr. | |
| *Potassii Acetas* | 10 to 60 gr. | |
| ,, *Bicarbonas* | 5 to 30 gr. | |
| ,, *Bichromas* | 1-10 to 1-5 gr. | 405 |
| ,, *Bromidum* | 5 to 30 gr. | |
| ,, Cantharides | 1-400 to 1-200 gr. hypod. | 129 |
| ,, *Carbonas* | 5 to 20 gr. | |
| ,, *Chloras* | 5 to 15 gr. | |
| ,, *Citras* | 10 to 40 gr. | |
| ,, ,, Effervescens | 1 dr. | |
| ,, Cobalto-nitris | ½ gr. | 405 |
| ,, *Cyanidum* | $\frac{1}{12}$ to $\frac{1}{4}$ gr. | 405 |
| ,, Glycerophosphas | 3 to 8 gr. | 25 |
| ,, Hypophosphis | 1 to 6 gr. | 384 |
| ,, *Iodidum* | 5 to 20 gr. | |
| ,, *Nitras* | 5 to 20 gr. | 405 |
| ,, Osmas | | 23 |
| ,, *Permanganas* | 1 to 3 gr. | 324 |
| ,, Persulphas | | 435 |
| ,, Phosphas | 1 to 10 gr. | 406 |
| ,, Salicylas | 5 to 30 gr. | 33 |
| ,, Silicas | | 435 |
| ,, Succinas | 5 to 10 gr. | 406 |
| ,, *Sulphas* | 10 to 40 gr. | |
| ,, *Tartras* | ½ to 4 dr. | |
| ,, ,, *Acidus* | 20 to 60 or 240 gr. | |

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| Potassii Telluras | ½ gr. | 406 |
| Potassium Silicate | | 435 |
| Potassio-Cupric Tartrate Solution | | 532 |
| ,, Mercuric Iodide ,, | | 536 |
| Poudre Nutritive | | 374 |
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| Propylamine | | 461 |
| Prostate Gland, Extract of | | 518 |
| Protargol | | 81 |
| Protective, Oiled Silk | | 12 |
| Protene | | 237 |
| Prunin | 1 to 5 gr. | 407 |
| *Pruni Virginianæ Cortex* | | 407 |
| Pseud-aconitine | | 15, 474 |
| Pseudo-Pelletierine Sulphate | | 373 |
| Ptychotis Oil | ½ to 3 m. | xxvi |
| Puff Ball | | 482 |
| Pulsatilla | | 407 |
| ,, Camphor | 1-60 to 1-12 gr. | 403 |
| Pulvis Acidi Borici Compositus | | 5 |
| ,, Acetanilidi Compositus | 3 to 5 gr. | 161 |
| ,, Aloes cum Canella | 3 to 10 gr. | 65 |
| ,, *Antimonialis* | 3 to 6 gr. | |
| ,, Arsenici Escharoticus | | 84 |
| ,, Basilicus | 4 to 8 gr. | 272 |
| ,, Bismuthi Compositus | | 108 |
| ,, Bonducellæ Compositus | 15 to 30 gr. | 477 |
| ,, *Buteæ Seminum* | 10 to 23 gr. | xxv |
| ,, *Catechu Compositus* | 10 to 40 gr. | |
| ,, Cinchoninæ Compositus | 3 to 12 gr. | 158 |
| ,, *Cinnamomi Compositus* | 10 to 40 gr. | |
| ,, *Cretæ Aromaticus* | 10 to 60 gr. | |
| ,, ,, *Aromaticus cum Opio* (2·5 ) | 10 to 40 gr. | 362 |
| ,, *Elaterini Compositus* | 1 to 4 gr. | 221 |
| ,, Glandulæ Thyroideæ | 3 to 10 gr. | 522 |
| ,, *Glycyrrhizæ Compositus* | 60 to 120 gr. | 258 |
| ,, Guaiaci Compositus | 20 to 40 gr. | 451 |
| ,, Hydrargyri cum Creta et Belladonnæ | | 101 |
| ,, Iodoformi | | 290 |
| ,, *Ipecacuanhæ Compositus* (10 Opium) | 5 to 15 gr. | 304 |
| ,, *Jalapæ Compositus* | 20 to 60 gr. | 313 |
| ,, *Kaladanæ Compositus* | 20 to 60 gr. | xxvii |

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| *Pulvis Kino Compositus* (5 °/ₒ Opium) | 5 to 20 gr. | 362 |
| ,, Liquiritiæ Compositus | 60 to 120 gr. | 258 |
| ,, Lobeliæ Compositus | | 495 |
| ,, *Opii Compositus* (10 °/ₒ Opium) | 2 to 10 gr. | 362 |
| ,, Pancreaticus Alkalinus (Benger) | 20 gr. in each | 366 |
| ,, Pectoralis (Kurellæ) | 60 to 120 gr. | 258 |
| ,, pro Pedibus | | 67 |
| ,, *Rhei Compositus* | 20 to 60 gr. | |
| ,, Rosæ Compositus | | 359 |
| ,, Salicylicus cum Talco, P.G., 1 in 33 | | 32 |
| ,, Salis Carolini Factitii Effervescens | 60 to 120 gr. | 437 |
| ,, *Scammonii Compositus* | 10 to 20 gr. | |
| ,, *Seidlitz* | | 438 |
| ,, *Sodæ Tartaratæ Effervescens*, *syn. Seidlitz* | | 438 |
| ,, *Tragacanthæ Compositus* | 20 to 60 gr. | 461 |
| ,, Zinci et Amyli | | 472 |
| ,, ,, et Hydrargyri Subchloridi | | 472 |
| ,, ,, Oleatis | | 356 |
| Pumiline | | 396 |
| *Punica Granatum* | | 372 |
| Punicine Sulphate | 5 to 8 gr. | 372 |
| Pussy Willow | | 481 |
| Pyoktanin | | 177 |
| Pyrazolonum-Phenyldimethylicum Salicylicum | 15 to 30 gr. | 175 |
| Pyridine | 5 to 10 m. | 409 |
| Pyrocatechin | | 281 |
| Pyrodin | | 168 |
| *Pyrogallic Acid* | ½ to 1½ gr. | xxix, 27 |
| *Pyrogallol* | ½ to 1½ gr. | 27 |
| ,, -Bismuth | 2 to 8 gr. | 109 |
| ,, Oxidised | | 28 |
| Pyroxylic Spirit | | 58 |
| Pyroxylin | | 258 |
| Pyrozone | | 278 |
| Quassin, Quassine Cristallisée | 1-30 to 1-3 gr. | 483 |
| Quebracho Bark | | 403 |
| *Quillaia* | | 159, 483 |
| Quineti Sulphas | 1 to 5 gr. or more | 410 |
| Quinetum | 1 to 5 gr. or more | 410 |
| Quinidinæ Sulphas | 1 to 20 gr. | 411 |
| Quinidine | | 411 |
| Quinina | 1 to 4 gr. | 411 |
| Quininæ Arsenas | 1-8 to ½ gr. | 412 |
| ,, Chloras | 1 to 5 gr. | 412 |
| ,, Citras | 1 to 5 gr. | 412 |

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| Quininæ Dihydrochloridum | | 414 |
| ,, Fluoridum | 1 to 2 gr. | 20 |
| ,, Glycerophosphas | 3 to 8 gr. | 25 |
| ,, Hydriodidum | 1 to 5 gr. | 415 |
| ,, ,, Acidum | 1 to 4 gr. | 415 |
| ,, Hydrobromidum | 1 to 5 gr. | 413 |
| ,, ,, Acidum | ½ to 2 gr. (hypod.) | 413 |
| ,, *Hydrochloridum* | 1 to 10 gr. | 413 |
| ,, ,, *Acidum* | 1 to 10 gr., ½ to 2 gr. hypod. | 414 |
| ,, Hydrochloro-Carbamidum | 5 to 15 gr. | 414 |
| ,, ,, -Sulphas | 1 to 10 gr. | 414 |
| ,, Iodes | 1 to 5 gr. | 415 |
| ,, Lactas | 1 to 5 gr. | 415 |
| ,, Oleatum, 1 in 4 | | 351 |
| ,, Phosphas | 1 to 6 gr. | 415 |
| ,, Salicylas | 2 to 6 gr. | 415 |
| ,, *Sulphas* | 1 to 10 gr. | 416 |
| ,, ,, Acidus | 1 to 10 gr. | 419 |
| ,, Sulphocarbolas | 1 to 6 gr. | 419 |
| ,, Tannas | 1 to 4 gr. | 419 |
| ,, Valerianas | 1 to 4 gr. | 419 |
| *Quinine Acid Hydrochloride* | 1 to 10 gr. | 414 |
| ,, ,, Sulphate | 1 to 10 gr. | 419 |
| ,, Bisulphate | 1 to 10 gr. | 419 |
| ,, Disulphate | 1 to 5 gr. | 416 |
| ,, *Sulphate* | 1 to 5 gr. | 416 |
| ,, Urea | 5 to 15 gr. | 414 |
| ,, and Uranium Chloride | 3 to 6 gr. | 464 |
| Quinoidine | 1 to 5 gr. or more | 420 |
| Quinol | ½ to 5 gr. | 281 |
| Quinoline-Bismuth Sulphocyanide | | 166 |
| Quinotropine | [illegible]0 gr. daily | 399 |
| Rabies Antitoxin | | 198 |
| Ragwort | | 485 |
| Randia Dumetorum | | 483 |
| Rattlesnake Poison | | 179 |
| Rectified Spirit | | 55 |
| Red Gum | 2 to 5 gr. | 232 |
| Remijia Purdieana | | 154 |
| ,, Pedunculata | | 154 |
| Rennet, Essence of | | 373 |
| *Resina Podophylli* | 1-30 to 1-15 gr. frequently<br>¼ to 1 gr. single dose | 402 |
| ,, ,, *Indica* | ¼ to 1 gr. | xxviii |
| Resorcin | 3 to 8 gr. | 420 |

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| Resorcin-monacetate | | 422 |
| ,, -phthaleïn Anhydride | | 167 |
| Rhamni Frangulæ Cortex | | 422 |
| ,, *Purshiani Cortex* | | 132 |
| *Rhei Radix* | 3 to 10 gr. repeated | |
| Rhigolene | | 198 |
| Rhodallin | | 129 |
| Rhus Aromatica | | 423 |
| ,, Glabra | | 423 |
| ,, Toxicodendron | | 423 |
| Ricin | | 358 |
| Roberts' Acidulated Brine Test | | 528 |
| Rosaniline Hydrochloride | ½ to 4 gr. | 168 |
| Roseine | ½ to 4 gr. | 168 |
| Rosolane | | 265 |
| Roux's Serum | | 493 |
| Rubidium | | 423 |
| Rubidii et Ammonii Bromidum | 5 to 30 gr. | 424 |
| ,, Bromidum | 5 to 30 gr. | 423 |
| ,, Iodidum | 5 to 20 gr. | 424 |
| Rubini's Solution of Camphor | 2 to 5 m. | 124 |
| Rubus Chamæmorus | | 484 |
| Rumicin | 1 to 4 gr. | 424 |
| Rusot, Rasot | ½ to 1 dr. | 277 |
| *Sabadilla* | | 467 |
| Saccharated Wheat Phosphates | | 386 |
| Saccharin, *syn. Glusidum* | ½ to 2 gr. | 424 |
| ,, Soluble | ½ to 2 gr. | 425 |
| Sacred Bark | | 132 |
| Safranine | | 534 |
| ,, Test for Sugar | | 534 |
| Safrole | 20 to 30 m. | 484 |
| Salacetol | 10 to 30 gr. | 35 |
| Sal Alembroth | | 271 |
| ,, Gauze | | 271 |
| ,, Wool | | 271 |
| ,, Bromatum Effervescens | 60 to 120 gr. | 431 |
| ,, Carolinum Factitium | 20 to 60 gr. | 437 |
| *Salicinum* | 5 to 20 gr. | 36 |
| Salicylamide | 2 to 6 gr. | 39 |
| Salicylate of Ammonium | 5 to 30 gr. | 33 |
| ,, Bismuth | 5 to 20 gr. | 105 |
| ,, Calcium | 2 to 20 gr. | 33 |
| ,, Camphor | 1 to 5 gr. | 125 |
| ,, Cresol | 2 to 10 gr. | 39 |
| ,, Iron | 3 to 10 gr. or more. | 33 |

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| Salicylate of Mercury | ⅓ gr. | 272 |
| ,, Methyl | | 31 |
| ,, Phenocoll | 10 to 30 gr. | 177 |
| ,, Phenyl | 5 to 15 gr. | 36 |
| ,, Potassium | 5 to 30 gr. | 33 |
| ,, *Sodium* | 10 to 30 gr. | 33 |
| Salicylated Collodion | | 199 |
| *Salicylic Acid* | 5 to 20 gr. or more | 29 |
| ,, ,, Ointment, 1 in 30 | | 32 |
| ,, ,, Cream, 1 in 6½ | | 32 |
| ,, Plaster Mulls | | 32, 556 |
| ,, Wool, 4 and 10 per cent. | | 32 |
| Salicyl-a-methyl-phenyl-hydrazone | 4 to 8 gr. | 38 |
| ,, -para-phenetidin | 60 to 90 gr. daily | 169 |
| ,, -sulphonic Acid | | 527 |
| Saligallol | | 28 |
| Saline Solution, Normal | | 429 |
| ,, ,, Jennings' | | 429 |
| ,, ,, Tubes of | | 430 |
| Salinigrin | | 484 |
| Salipyrin | 15 to 30 gr. | 175 |
| Salix Nigra | | 481 |
| Salocoll | 10 to 30 gr. | 177 |
| *Salol* | 5 to 15 gr. | 36 |
| ,, cum Camphora | | 38 |
| ,, Catheter Oil | | 38 |
| ,, Collodion | | 38 |
| ,, Pill Varnish | | 37 |
| Salophen | 10 to 30 gr. | 38 |
| Salud | | 481 |
| Salumin | | 68 |
| Salve Mulls | | 7, 557 |
| Salvo Petrolia | | 370 |
| *Sandal Wood Oil* | 5 to 30 m. | 359 |
| Sanguinaria | | 426 |
| Sanguinarin | ¼ to 1 gr. | 426 |
| Sanguis Bovinus Exsiccatus | | 236 |
| Sanitary Wood Wool Wadding | | 396 |
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| ,, Oil | | 395 |
| ,, Toilet | | 395 |
| Sanoform | | 298 |
| Sanose | | 237 |
| Santonica | 10 to 60 gr. | 426 |
| Santoninoxim | | 428 |
| *Santoninum* | 2 to 5 gr. | 426 |

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| Sapo Jalapinus | 2 to 6 gr. | 313 |
| ,, Kalinus | | 484 |
| ,, Lanoline | | 317 |
| ,, Viridis | | 484 |
| Saponin | | 483 |
| Sappan | | xxix |
| Sarcoma and Malignant Tumour | | 499 |
| Sarracenia Purpurea | | 484 |
| *Sassafras Bark* | | xxviii, 484 |
| ,, Pith | | 484 |
| Sassy Bark | | 224 |
| Saxin | | 425 |
| *Scammoniæ Resina* | 3 to 8 gr. | |
| Scammonin | 1 to 5 gr. | 312 |
| *Scammonium* | 5 to 10 gr. | |
| Scheele's Green, Pure | 1-100 to 1-25 gr. | 84 |
| Schmiedeberg's Fehling's Test | | 532 |
| Schœnocaulon Officinale | | 467 |
| *Scilla* | 1 to 3 gr. | 484 |
| Scillaïn | | 484 |
| Scillipicrin | | 484 |
| Scillitoxin | | 484 |
| Sclerotic Acid, Sclerotinic Acid | ½ to ¾ gr. | 227 |
| Scopola Carniolica | | 484 |
| ,, Japonica | | 485 |
| Scopolamine | | 88, 185, 281 |
| ,, Hydrobromide | 1-300 to 1-100 gr. | 281, 485 |
| Scopolina Atropoides | | 484 |
| Scopoline | | 485 |
| Scott's Dressing | | 264 |
| Scotch Pine, or Fir | | 395 |
| Scutellarin | 1 to 5 gr. | 485 |
| Sea Wrack | | 249 |
| Sebum Salicylicum | | 32 |
| Secale Cornutum | 20 to 60 gr. | 225 |
| Secalin | | 461 |
| *Seidlitz Powder* | | 438 |
| Selenite | | 315 |
| Semen Erucæ | | 428 |
| ,, Test | | 537 |
| Senecin | 2 to 5 gr. | 485 |
| Senecine | | 485 |
| Senecio | | 485 |
| Senecionine | | 485 |
| *Senna* | 10 to 30 gr. | 223 |
| Septentrionalin | | 474 |

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| Septicæmia, Serum treatment of | | 501 |
| Sequardin | | 518 |
| Serotherapy | | 489 |
| Serpent Venom | | 502 |
| Serum Antidiphthericum | | 491 |
| Serums | | 488 |
| *Sesame Oil* | | xxviii |
| Sethia Acuminata | | 485 |
| Sevum Phosphoratum | | 379 |
| Sidonal | daily 80 gr. | 399 |
| Siegesbeckia Orientalis | | 485 |
| Silicate of Potassium Solution | | 435 |
| ,, of Sodium Solution | | 435 |
| Silk, Carbolised | | 11 |
| *Silver Nitrate* | ¼ to ½ gr. | 78 |
| ,, ,, *Mitigated* | | 79 |
| ,, ,, *Toughened* | | 79 |
| ,, *Oxide* | ½ to 2 gr. | |
| Simulo | | 485 |
| *Sinapis* | | 428 |
| Smelling Salts, Carbolised | | 12 |
| Smilax Sarsaparilla | | 440 |
| Snakeroot, Black | | 153 |
| Snakeweed | | 235 |
| Snuff of Menthol | | 327 |
| Soap Bark | | 483 |
| ,, Green | | 484 |
| ,, Mercuric Iodide | | 267 |
| Soaps, Unna's | | 557 |
| Socaloin | ½ to 2 gr. | 65 |
| *Soda Tartarata* | 2 to 4 dr. | |
| *Sodæ Tartaratæ Effervescens, Pulvis* | | 438 |
| *Sodii Arsenas* | 1-40 to 1-10 gr. | 85 |
| ,, *Benzoas* | 5 to 30 gr. | 2 |
| ,, *Bicarbonas* | 5 to 30 gr. | |
| ,, *Bromidum* | 5 to 30 gr. | 430 |
| ,, Cacodylas | | 85 |
| ,, *Carbonas* | 5 to 30 gr. | |
| ,, ,, *Exsiccatus* | 3 to 10 gr. | |
| ,, Chloras | 10 to 30 gr. | 431 |
| ,, *Chloridum* | 10 to 240 gr. | |
| ,, Cinnamas | | 3 |
| ,, Citras | 10 to 60 gr. | 432 |
| ,, *Citro-Tartras Effervescens* | 1 to 2 dr. | |
| ,, Cresotas | 2 to 20 gr. | 39 |
| ,, Dioxidum | | 279 |

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|---|---|---|
| Sodii Di-thio-salicylas | 3 gr. | 34 |
| ,, Ethyl-sulphas | ¼ to 1 oz. | 438 |
| ,, Glycerophosphas | 5 to 10 gr. | 25 |
| ,, Glyco-cholas | ... | 438 |
| ,, Hippuras | 5 to 30 gr. | 2 |
| ,, Hypobromitis Solutio | ... | 433 |
| ,, Hypochloris | ... | 432 |
| ,, *Hypophosphis* | 3 to 10 gr. | 381 |
| ,, *Hyposulphis* | 10 to 60 gr. | 43 |
| ,, *Iodidum* | 5 to 20 gr. | 433 |
| ,, *Nitris* | 1 to 2 gr. | 433 |
| ,, Paracresotas | 2 to 20 gr. | 39 |
| ,, Permanganas | ... | 325 |
| ,, Peroxidum | ... | 279 |
| ,, Persulphas | 1 to 3 gr. | 435 |
| ,, *Phenol-para-sulphonas* | 5 to 15 gr. | 15 |
| ,, *Phosphas* | ¼ to ½ oz. or 30 to 120 gr. repeated | 434 |
| ,, ,, Effervescens | 1 to 3 dr. | 434 |
| ,, ,, ,, (*Off.*) | ¼ to ½ oz. or 60 to 120 gr. repeated | 434 |
| ,, ,, Exsiccatus | 10 gr. to 4 dr. | 434 |
| ,, Ricinoleas | ... | 358 |
| ,, *Salicylas* | 10 to 30 gr. | 33 |
| ,, ,, Effervescens | 1 dr. or more | 34 |
| ,, Silicas | ... | 435 |
| ,, Sulphanilas | 5 to 15 gr. | 163 |
| ,, *Sulphas* | ¼ to ½ oz. or 10 to 120 gr. repeated | 436 |
| ,, ,, Acidus | ... | 436 |
| ,, ,, Effervescens | 60 gr. or more | 436 |
| ,, ,, ,, (Off.) | ¼ to ½ oz. or 60 to 120 gr. repeated | 436 |
| ,, ,, Exsiccatus | ½ to 2 dr. | 436 |
| ,, Sulphethylas | ¼ to 1 oz. | 43 |
| ,, *Sulphis* | 5 to 20 gr. | |
| ,, *Sulphocarbolas* | 5 to 15 gr. | 15 |
| ,, Sulpho-Ichthyolas | 10 to 30 gr. daily | 287 |
| ,, Sulphoricinas | ... | 358 |
| ,, Sulphovinas | ¼ to 1 oz. | 438 |
| ,, Tauro-cholas | 2 to 6 gr. | 43 |
| ,, Telluras | ⅛ to ¾ gr. | 43 |
| ,, *Thiosulphas* | 10 to 60 gr. | 4 |
| Sodio-Magnesii Sulphas Effervescens | 60 gr. or more | 437 |
| Sodium | ... | 429 |
| ,, Caffeine Iodide | 2 to 10 gr. | 117 |
| ,, -Fluorescein | ... | 167 |
| ,, Orthonitrophenyl-propiolate | ... | 53 |

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| Soluble Glass for Bandages ... ... ... ... ... | | 135 |
| Soluté de Digitaline Cristallisée ... ... | 1 to 16 m. | 218 |
| Solutio Creosoti Composita. *Brompton Hosp.* ... | | 207 |
| ,, Saturans... ... ... ... ... ... ... | | 5 |
| ,, Zinci Chloridi Antiseptica ... ... ... ... | | 470 |
| Solution hypodermique d'Ergotinine de Tanret | 3 to 10 m. | 223 |
| ,, Normal Saline, and Tubes of ... ... ... | | 430 |
| ,, *of Coal Tar* ... ... ... ... ... ... | | 159 |
| ,, of Ichthyol ... ... ... ... ... ... | | 257 |
| ,, of Methyl-Orange ... ... ... ... ... | | 538 |
| ,, of *Phenolphthalein* ... ... ... ... ... | | 537 |
| ,, *of Potassio-Cupric Tartrate* ... ... ... | | 532 |
| ,, ,, Mercuric Iodide ... | | [illegible], 537 |
| Somatose ... ... ... ... ... | ½ to 1 oz. daily | 236 |
| Soy Bean ... ... ... ... ... ... ... ... | | 485 |
| Soya Hispida ... ... ... ... ... ... ... | | 485 |
| Sozoiodol ... ... ... ... ... ... | | 298 |
| Sparteinæ Sulphas ... ... ... | ¼ to 1 gr. | 438 |
| Spermin ... ... ... ... ... ... ... | | 518 |
| Sphagnum ... ... ... ... ... ... ... | | 449 |
| Spiegler's Test for Albumen ... ... ... ... ... | | 527 |
| Spinal Cord Extract ... ... ... ... ... | | 516 |
| Spindle Tree Bark ... ... ... ... ... ... | | 234 |
| *Spiritus Ætheris* ... ... | 60 to 90 m. or 20 to 40 m. rep. | 49 |
| ,, ,, *Compositus* | 60 to 90 m. or 20 to 40 m. rep. | 50 |
| ,, ,, *Nitrosi* | 60 to 90 m. or 20 to 40 m. rep. | 50 |
| ,, *Ammoniæ Aromaticus* | 60 to 90 m. or 20 to 40 m. rep. | 70 |
| ,, ,, *Fœtidus* | 60 to 90 m. or 20 to 40 m. rep. | 71 |
| ,, *Anisi*, 1 in 10 ... ... ... | 5 to 20 m. | |
| ,, *Armoraciæ Compositus* ... ... | 1 to 2 dr. | |
| ,, Aurantii Compositus U.S. ... ... ... | | 229 |
| ,, *Cajuputi*, 1 in 10 ... ... | 5 to 20 m. | |
| ,, *Camphoræ*, 1 in 10 ... ... | 5 to 20 m. | 123 |
| ,, ,, Fortior ... ... | 2 to 5 m. | 124 |
| ,, *Chloroformi (Chloric Ether)* ... | 5 to 40 m. | 109 |
| ,, *Cinnamomi*, 1 in 10 ... ... | 5 to 20 m. | |
| ,, Cologniensis ... ... ... | | 57 |
| ,, Glonoini ... | ½ to 2 m. | 313 |
| ,, Hamamelidis ... ... ... | ½ to 3 dr. | 282 |
| ,, *Juniperi*, 1 in 10 ... ... | 20 to 60 m. | |
| ,, *Lavandulæ*, 1 in 10 ... ... | 5 to 20 m. | |
| ,, *Menthæ Piperitæ*, 1 in 10 ... | 5 to 20 m. | |
| ,, Methylatus ... ... ... ... ... ... | | 57 |
| ,, Myrciæ ... ... ... ... ... ... ... | | 57 |
| ,, *Myristicæ*, 1 in 10 ... ... | 5 to 20 m. | |
| ,, Nucis Juglandis ... ... ... | 1 to 4 dr. | 314 |

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| ***Spiritus Rectificatus*** | | 55 |
| ,, *Rosmarini*, 1 in 10 | | |
| ,, Sinapis, P. G. iv | | 428 |
| ,, Tenuior | | 57 |
| ,, Thymol | 3 to 15 m. | 458 |
| Spirone | | 58 |
| Spleen Feeding and Extract | | 519 |
| **Staining Preparations** | | 544 |
| **Staphisagriæ Oleum** | | 216 |
| ,, *Unguentum* | | 216 |
| **Star Grass** | | 475 |
| **Starch and Iodine Paste** | | 303 |
| ,, Iodised | ½ to 4 dr. | 302 |
| *Staresacre Ointment* | | 216 |
| **Sterilised Dressings** | | 555 |
| ,, **Oil and Liquid Paraffin** | | 209 |
| **Stigmata Maidis** | | 482 |
| **Stillingia** | | 440 |
| **Stillingin** | 1 to 3 gr. | 440 |
| ***Stramonium*** | | 216, 4 6 |
| Strontii Bromidum | 5 to 30 gr. | 441 |
| ,, ,, Exsiccatum | 4 to 24 gr. | 441 |
| ,, Carbonas | 5 to 30 gr. | 441 |
| ,, Glycerophosphas | 3 to 8 gr. | 25 |
| ,, Iodidum | 5 to 20 gr. | 441 |
| ,, Lactas | 5 to 30 gr. | 441 |
| ,, **Salicylas** | 5 to 20 gr. | 442 |
| Strontium | | 440 |
| **Strophanthi Pilula, 2 m. and 4 m. of Tr. in each** | | 441 |
| ,, *Semina* | | 442 |
| ,, Tabellæ | 1 to 5 | 443 |
| ,, *Tinctura* | 2 to 10 m. | 443 |
| **Strophanthin, Strophantin** | 1-300 to 1-100 gr. | 442 |
| *Strophanthus* ***Hispidus*** | | 442 |
| ,, *Kombé*, Strophantus | | 442 |
| *Strychnina*, ***Strychnine*** | 1-60 to 1-15 gr. | 445 |
| Strychninæ Acetas | 1-60 to 1-15 gr. | 445 |
| ,, Arsenas | 1-60 to 1-15 gr. | 446 |
| ,, **Hydrobromidum** | 1-60 to 1-15 gr. | 446 |
| ,, ***Hydrochloridum*** | 1-60 to 1-15 gr. | 446 |
| ,, **Nitras** | 1-60 to 1-15 gr. | 446 |
| ,, Phosphas Acidus | 1-60 to 1-15 gr. | 447 |
| ,, **Sulphas** | 1-60 to 1-15 gr. | 447 |
| ,, ,, Acidus | 1-60 to 1-15 gr. | 447 |
| Styles of Boric Acid | | 5 |
| Styptic Colloid | | 199 |

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| Styptic Lint ... ... ... ... ... ... ... | | 240 |
| ,, Wool ... ... ... ... ... ... ... | | 240 |
| Stypticin ... ... ... ... ... ... | ¼ to ½ gr. | 344 |
| Styracol ... ... ... ... .. ... | daily 15 gr. | 211 |
| Sublimate Disinfectant for Cholera ... ... ... ... | | 269 |
| ,, Lotiforms ... ... ... ... ... ... | | 269 |
| ,, Pastils ... ... ... ... ... ... | | 270 |
| ,, Wood Wool, ½ per cent. ... ... | | 269, 396 |
| *Succus Acalyphæ* ... ... ... ... | 1 to 4 dr. | xxiv |
| ,, *Adhatodæ* ... ... ... ... | 1 to 4 dr. | xxiv |
| ,, Allii ... ... ... ... ... | 10 to 30 m. | 475 |
| ,, Alterans ... ... ... ... ... | 1 to 4 dr. | 440 |
| ,, Ari... ... ... ... ... ... | 1 dr. | 486 |
| ,, *Belladonnæ* ... ... ... ... | 5 to 15 m. | 101 |
| ,, *Conii* ... ... ... ... | 1 to 2 dr. | 201 |
| ,, Digitalis ... ... ... ... ... | 5 to 10 m. | 217 |
| ,, Galii ... ... ... ... ... | 1 to 2 dr. | 479 |
| ,, *Hyoscyami* ... ... ... | ½ to 1 dr. | |
| ,, *Scoparii* ... ... ... ... ... | 1 to 2 dr. | |
| ,, *Taraxaci* ... ... ... ... ... | 1 to 2 dr. | |
| Sucrol ... ... ... ... ... ... ... ... | | 126 |
| Sugar Coating of Pills ... ... ... ... ... ... | | 393 |
| ,, Inverted ... ... ... ... ... ... ... | | 426 |
| ,, in Urine, Tests for ... ... ... ... ... | | 532 |
| Sulphaminol ... ... ... ... ... ... ... | | 17 |
| Sulphide of Calcium ... .. ... ... | ¼ to 1 gr. | 119 |
| Sulphocarbolates... ... ... ... ... ... ... | | 15 |
| Sulphocarbolic Acid ... ... ... ... ... ... | | 15 |
| Sulpho-ichthyolate of Ammonium .. . ... ... | | 286 |
| *Sulphonal* ... ... ... ... | 10 to 30 gr. | 418 |
| Sulphoricinates ... ... ... . . ... ... ... | | 358 |
| *Sulphur Præcipitatum* ... ... ... | 20 to 60 gr. | 450 |
| ,, *Sublimatum* ... ... ... | 20 to 60 gr. | 450 |
| *Sulphurous Acid* ... ... ... ... | 30 to 60 m. | 41 |
| ,, Anhydride ... ... ... ... ... | | 41 |
| Suppositories, Hollow ... ... ... ... ... ... | | 256 |
| ,, Peptonised Beef ... ... ... ... | | 375 |
| Suppositoria Acidi Borici, 3 gr. ... ... ... ... | | 5 |
| ,, ,, *Carbolici*, 1 gr. ... ... ... ... | | 12 |
| ,, ,, *Tannici*, 3 gr. ... ... ... ... | | |
| ,, Atropinæ, 1-20 gr. ... ... ... ... | | |
| ,, *Belladonnæ*, 1½ gr. ... ... .. ... | | 102 |
| ,, Bismuthi Oxychloridi, 10 gr... ... ... | | 104 |
| ,, Carnis ... ... ... ... ... .. | | 375 |
| ,, Chloral, 5 gr. ... ... ... ... ... | | 138 |
| ,, Cocainæ, ½ gr. or more ... ... ... | | 182 |

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| Suppositoria Collinsoniæ | | 478 |
| ,, Gallæ, 5 gr. | | |
| ,, Gallæ, 5 gr.<br>Opii, 1 gr. | | |
| ,, *Glycerini* | | 256 |
| ,, Hamamelin, 1 gr. and 3 gr. | | 262 |
| ,, Ichthyol, 3 gr. | | 287 |
| ,, *Iodoformi*, 3 gr., also 1 gr. and 5 gr. | | 293 |
| ,, *Morphinæ*, ¼ gr., also ½ gr., and 1 gr. | | 335 |
| ,, Opii, 1 gr. | | |
| ,, *Plumbi Acetatis*, 3 gr.<br>*Opii*, 1 gr. | | 362 |
| ,, Santonini, 3 gr., 5 gr., and 6 gr. | | 127 |
| ,, Zinci Oleatis 5 gr. | | |
| ,, ,, Oxidi 5 gr. | | |
| Supra-renal Capsule Extract | | 520 |
| Surgical Dressings | | 553 |
| ,, Lubricant | | 11 |
| Sweet Vernal Grass | | 476 |
| Sylphium, *syn.* Silphion | | 455 |
| Symphorol, N. S. & L. | 10 to 15 gr. | 117 |
| Symphytum Officinale | | 486 |
| Synopsis of B. P. C Formulary | | xxx |
| ,, Indian and Colonial Addendum | | xxiv |
| Syphilis, Serum treatment of | | 504 |
| *Syrupus* | 1 or 2 dr. | |
| ,, Acaciæ (Mucilage 1, Syrup 5), | *ad lib.* | |
| ,, Acidi Hydriodici, 1 per cent. | 20 to 60 m. | 303 |
| ,, Allii Aceticus | 1 to 4 dr. | 475 |
| ,, Apomorphinæ Hydrochloridi | ½ to 1 dr. | 77 |
| ,, *Aromaticus* | ½ to 1 dr. | 222 |
| ,, *Aurantii* | ½ to 1 dr. | 96 |
| ,, *Aurantii Floris* | ½ to 1 dr. | 96 |
| ,, Butyl Chloral | 1 to 4 dr. | 112 |
| ,, Calcii et Ferri Lactophosphatis | ½ to 1 dr. | 21 |
| ,, ,, *Lactophosphatis* | ½ to 1 dr. | 21 |
| ,, ,, Hypophosphitis | 1 to 4 dr. | 383 |
| ,, Cascara Sagrada | 1 to 4 dr. | 131 |
| ,, *Cascaræ Aromaticus* | ½ to 2 dr. | 133 |
| ,, *Chloral* | ½ to 2 dr. | 138 |
| ,, *Codeinæ* | ½ to 2 dr. | 196 |
| ,, Eucalypti Gummi | 30 to 60 m. | 233 |
| ,, Ferri Bromidi | ½ to 1 dr. | 237 |
| ,, ,, ,, cum Quinina | ½ to 1 dr. | 238 |
| ,, ,, ,, ,, et Strychnina, | 1 dr. | 238 |
| ,, ,, ,, Strychnina | ½ to 1 dr. | 238 |

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|---|---|---|
| Syrupus Ferri et Manganesii Phosphatum | 1 dr. | 245 |
| ,, ,, ,, Quininæ Citratis | 1 dr. | 412 |
| ,, ,, ,, ,, Hydrobromatum | ½ to 1 dr. | 238 |
| ,, ,, ,, ,, Iodidi | 1 dr. | 415 |
| ,, ,, ,, Strychninæ Hydrobromatum | ½ to 1 dr. | 238 |
| ,, ,, Hypophosphitis | ½ to 2 dr. | 384 |
| ,, ,, *Iodidi* | ½ to 1 dr. | 244 |
| ,, ,, *Phosphatis* | ½ to 1 dr. | 245 |
| ,, ,, ,, Compositus | ½ to 2 dr. | 245 |
| ,, ,, ,, *cum Quinina et Strychnina* | ½ to 1 dr. | 246 |
| ,, ,, Quininæ et Strychninæ Hydrobromatum | ½ to 1 dr. | 238 |
| ,, Ficorum | 1 to 4 dr. | 221 |
| ,, *Glucosi* | | 392 |
| ,, Glycerophosphatum | 1 to 4 dr. | 25 |
| ,, ,, Compositus | 1 to 2 dr. | 25 |
| ,, *Hemidesmi* | ½ to 1 dr. | |
| ,, Hypophosphitum Compositus | ½ to 2 dr. | 385 |
| ,, Ipecacuanhæ Aceticus | ¼ to 2 dr. | 305 |
| ,, *Limonis* | ½ to 1 dr. | |
| ,, Mori | 1 dr. | |
| ,, Papaveris | 1 dr. | |
| ,, Picis Liquidæ | 1 to 2 dr. | 401 |
| ,, ,, cum Codeina | ½ to 2 dr. | 401 |
| ,, *Pruni Virginianæ* | ½ to 1 dr. | 407 |
| ,, *Rhei* | ½ to 2 dr. | |
| ,, *Rhœados* | ½ to 1 dr. | xxx |
| ,, *Rosæ* | ½ to 1 dr. | |
| ,, *Scillæ* | 30 to 60 m. | |
| ,, *Sennæ* | ½ to 2 dr. | 223 |
| ,, ,, cum Manna | ½ to 1 dr. | 223 |
| ,, Sodii Hypophosphitis | 1 to 4 dr. | 384 |
| ,, Sulphatum | 4 dr. | 121 |
| ,, *Tolutanus* | ½ to 1 dr. | |
| ,, *Urgineæ* | ½ to 1 dr. | xxx |
| ,, *Zingiberis* | ½ to 1 dr. | |
| Syzygium Jambolanum | | 313 |
| Tabellæ, Chocolate Tablets | | 455 |
| ,, Apomorphinæ, 1-50 gr. | | 76 |
| ,, Caffeinæ Citratis, 2 gr. | | 114 |
| ,, Cocainæ, 1-20 gr. | | 182 |
| ,, Erythrol Nitratis, ½ and 1 gr. | 1 or 2 | 228 |
| ,, Exalgin, ½ gr. | | 166 |
| ,, *Glonoini* | 1 or 2 | 346 |
| ,, Mannitol Nitratis, 1 gr. | | 229 |

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| Tabellæ **Menthol, 1·5 gr.** | 1 or 2 | 329 |
| ,, *Nitroglycerini* | 1 or 2 | 346 |
| ,, ,, Compositæ | | 348 |
| ,, **Pepsini, 3 gr.** | 1 or 2 with meals | 375 |
| ,, ,, **et Bismuthi** | 1 or 2 | 375 |
| ,, Strophanthi, 1 m. of Tr. | | 444 |
| ,, *Trinitrini* | 1 or 2 | 347 |
| ,, ,, Compositæ | | 348 |

**Tablets, Compressed—Tabellæ.** *Chiefly in demand are:—*

Acetanilide (Antifebrin), 5 gr.
Agathin, 4 gr.
Aloin, 1-10 and ½ gr.
Aloin Compound—
  Aloin, 1-5 gr.
  Strychnine Sulph., 1-60 gr.
  Ext. Belladonna, 1-8 gr.
  Ipecacuanha, 1-16 gr.
Ammon. Bromide, 5 gr.
Ammon. Chloride, 3 & 5 gr.
,, ,, 3 gr. & Borax, 2 gr.
Ammonol, 5 gr.
Antipyrine (Phenazone), 2½ and 5 gr.
,, 3 gr. & Caffeine, 1 gr.
Antiseptic, Thymol, Lavender, &c.
Arsenious Acid, 1-100, 1-50, and 1-20 gr.
Benzoic Acid Compound—
  Benzoic Acid, ½ gr.,
  Menthol, 1–10 gr.
  Ipecacuanha, 1-10 gr.
  Codeine, 1-10 gr.
  Red Gum, ½ gr.
Benzosol, 5 gr.
Bismuth Carbonate, 5 gr.
,, Salicylate, 5 gr.
,, Subnitrate, 5 & 10 gr.
Blaud's Pill, 4 and 8 gr.
,, ,, 4 gr. & Arsen., 1-64 gr.
Bone Marrow Extract, 1½ gr.
Borax, 5 gr.
Boric Acid, 5 gr.
Caffeine, 1 gr. & Antipyrin, 3 gr.
Caffeine Citrate, 2 gr.
Cascara Sag. Ext. 1, 2, 3, 4, & 5 gr. (*sugar coated*).
Cerebrin, 5 gr.
Cerium Oxalate, 2 and 5 gr.
Chalk Aromatic Powder with Opium, 5 gr.
Chloralamide, 5 gr.
Chloral Hydrate, 5 and 10 gr. (*to be dissolved*).
Didymin (Orchitic Substance), 5 gr.
Digitalin (soluble), 1-100 gr.
Digitoxin, 1-250 gr.
Dover's Powder, 5 gr.
Ergotin, 3 gr.
Ferrum Redactum, 2 gr.
Glandulen, 4 gr.
Grey Powder, ¼, ⅓, ½, 1, 2, & 3 gr.
,, 1 gr. & Dover's Pdr. 1 gr.
Guaiacol Carbonate, 5 gr.
Guaiacum and Sulphur, 3 gr. of each.
,, ,, 2 gr. of each, with Quinine Salicylate, ½ gr.
Hydrarg. Perchlor., 1-100 & 1-16 gr.
Hydrarg. Subchlor., 1-10, 1-6, ½, 1, 2, 3, 4, & 5 gr.
Ichthyol, 2½ gr.
Iodopyrin, 5 gr.
Lithium Carbonate, 5 gr.
,, Citrate, 5 gr.
,, Eff. (Varalettes).
Magnesium Sulphite, 5 gr.
Manganese Dioxide 2 gr.
Mercuric Ethylene-diamine.
,, Potass. Iodide, 1 & 8¾ gr. (*for lotions*).
Nasal Alkaline
  Borax, 5 gr. Sod. Chlor. 5 gr.
Nasal Alkaline Antiseptic
  Sod. Bic. 5 gr., Borax, 5 gr., Phenol, ½ gr.
Naso-Pharyngeal Compound
  Sodii Chloridi, 7 gr., Borax. 2½ gr., Acidi Borici. ¾ gr., Sod. Benz. ½ gr., Menthol, 1-50 gr., Thymol. 1-100 gr., Cocainæ. Hydrochlor. 1-6 gr., Ol. Gaultheriæ, 1-20 min.
Nitropropiol (Sugar Test).
Nuclein, 1 gr.
Orchitic Substance, 5 gr.

**Tablets, Compressed—Tabellæ.** (*Continued*).

Ovarian Substance, 5 gr.
Ox Bile, *keratined*, 4 gr.
Pancreatin and Soda.
Papain, 2 gr.
Parotid Gland, 5 gr.
Pelargonium Compound.
Pepsin, 3 gr.
Peptonic (Pepsin, Pancreatin, Calcium Lactophosph., each 1 gr.).
Phenacetin, 5 gr.
Phenalgin, 2½ gr.
Pig Bile, *keratined*, 4 gr.
Piperazine, 5 and 15 gr.
Pituitary Gland, 2 gr.
Potass. Bicarbonate, 5 gr.
,, Bromide, 5 & 10 gr.
,, Chlorate, 5 gr.
,, ,, Eff. 3 gr.
,, ,, 3 gr. & Ammon. Chlor. 1 gr.
,, ,, 3 gr. Borax, 2 gr
,, ,, Borax & Cocaine (Voice)
,, Iodide, 1 and 5 gr.
,, Permanganate, 1 & 2 gr.
Prostate Gland, 2½ gr.
Quinine Acid Sulph., ½, 1, 2, 3, 4, & 5 gr.
,, Hcl., 1, 2, 3, 4, & 5 gr.
,, Salicylate, 3 gr.
,, Sulph., 1, 2, 3, 4, & 5 gr.
Resorcin, 3 gr.
Rhubarb, 3 gr.
Saccharin, ½ gr.
Salicin, 5 gr.
Salicylic Acid, 3 and 5 gr.
Salivary Gland, 5 gr.
Salol, 5 gr.
Santonin, 1, 2, and 3 gr.
Saxin, ¼ gr.
Soda Mint (Sod. Bicarb., Ammon. Carb., & Peppermint).
Sodium Bicarbonate, 5 gr.
,, Bromide, 5 gr.
,, Chlorate and Borax.
,, Acid Sulph., 5 gr.
,, Fluorescein.
,, Nitrite, 2½ gr.
,, Salicyl., 3 & 5 gr.
Spinal Cord, 2½ gr.
Spleen Substance, 5 gr.
Stypticin, ¾ gr.
Sublimate, *for lotions*.
Sulphonal, 5 gr.
Sulphur Præcip. 5 gr., Pot. Acid. Tart., 1 gr.
Supra-renal Capsule, 5 gr.
Tetronal, 5 gr.
Thymus Gland, 5 gr.
Thyroid Powder, 1½ & 5 gr.
Thyro-iodin, 0·3 Gm.
Trional, 5 gr.
Uranium Nitrate, 1 gr.
Urethane, 5 gr.
Urotropine, 3, 5, & 7½ gr.
,, Effervescent, 4 gr. (Varalettes).
Uterine Substance, 5 gr.
Yohimbine Hydrochloride, 1-13 gr.
Zinc Sulphate, *for Red Lotion*.
,, Sulphocarb., 2 & 10 gr.
Zymine, 3 gr.

**Tablets, Hypodermic.** *Chiefly in demand are:—*

Apomorph. Hydrochlor., 1-15 & 1-10 gr.
Atropine Sulph., 1-150, 1-100, & 1-60 gr.
Cocaine Hydrochlor., 1-10, 1-6, ¼, & ½ gr.
Digitalin (soluble), 1-100 gr.
Hyoscine Hydrobrom., 1-200 & 1-75 gr.
Morph. Sulph. 1-8, 1-6, ¼, ⅓, ½, & 1 gr.
{ Morphine Sulph., 1-8 gr.
{ Atropine Sulph., 1-200 gr.
{ Morphine Sulph., 1-6 gr.
{ Atropine Sulph., 1-180 gr.
{ Morphine Sulph., ¼ gr.
{ Atropine Sulph., 1-150 gr
{ Morphine Sulph., ⅓ gr.
{ Atropine Sulph., 1-120 gr.
Pilocarpine Nitrate, 1-6, ¼, & ½ gr.
Sparteine Sulphate, ½ gr.
Strychnine Sulphate, 1-100, 1-60, & 1-30 gr.

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|---|---|---|
| Taka-diastase | 1 to 5 gr. | 323 |
| Talc | | 315 |
| *Tamarind* | 1 to 8 dr. | |
| Tannal | | 68 |
| Tannalbin | 8 to 15 gr. | 43 |
| Tannate of Cannabin | 2 to 10 gr. increased | 127 |
| Tannigen | 3 to 8 gr. | 43 |
| Tannin | 2 to 5 gr. | 43 |
| Tannoform | | 44 |
| Tannopine, *syn.* Tannol | | 399 |
| Tanocol | 15 gr. | 44 |
| Tanret's Reagent | | 528 |
| Taphosote | 20 to 40 gr. | 268 |
| *Tar* | 2 to 10 gr. | 400 |
| Tayuya | | 456 |
| Teinture Ethérée de Phosphore | | 378 |
| Tela depurata, P.G. iv. | | 259 |
| Tenaline | | 177 |
| Tenax | | 130 |
| Terchloride of Formyl | 1 to 5 m. | 140 |
| *Terebenum* | 5 to 15 m. | 452 |
| Terebinthina Chia | 5 to 10 gr. | 454 |
| *Terebinthinæ Oleum* | 2 to 10 m, anthelmintic 3 to 4 dr. | 395 |
| Terpene Hydrate, Terpine | 2 to 6 gr. | 453 |
| Terpinum Hydratum | 2 to 6 gr. | 453 |
| Terpinol | 1 to 5 m. | 453 |
| Test Solutions | | 525, 551 |
| Testicle Juice | | 518 |
| Testiculin, Testin | | 518 |
| Tetanus Antitoxin | | 504 |
| Tetrachloride of Carbon | | 131 |
| Tetrahydroparachinanisol Sulphate | 3 to 5 gr. | 177 |
| Tetrahydroparamethyloxychinoline Sulphate | 3 to 5 gr. | 177 |
| Tetra-iodo-pyrrhol, *syn.* Iodol | 1 to 3 gr. | 293 |
| Tetramethylthionine Chloride | 1 to 4 gr. | 169 |
| Tetronal | 10 to 20 gr. | 449 |
| Thalline | 3 to 5 gr. | 177 |
| ,, Periodide, Periodosulphate | 2 to 5 gr. | 178 |
| ,, Sulphate | 3 to 5 gr. | 177 |
| Thapsia Garganica | | 455 |
| Thebaine | | 344 |
| Theine | 1 to 5 gr. | 113 |
| Theobroma | | 455 |
| *Theobromatis Oleum* | | 455 |
| ,, Pasta | | 455 |
| Theobromine | 1 to 5 gr. | 455 |

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|---|---|---|
| Theobrominum Natrio-Salicylicum | 5 to 15 gr. | 456 |
| Therapeutic Index | | 665 |
| Thermodin | 5 to 15 gr. | 178 |
| Thialion | a teaspoonful in hot water | 320 |
| Thiocol | 15 gr. | 212 |
| Thioform | | 106 |
| Thiol | 2 to 10 gr. | 289 |
| ,, Liquidum | | 289 |
| Thio-oxy-di-phenylamine | | 17 |
| Thiosinamin | | 429 |
| Thio-sulphate of Sodium | | 43 |
| Thuja | | 457 |
| *Thymol* | ½ to 2 gr. | 457 |
| ,, -Acetate of Mercury | ¾ to 1½ gr. | 274 |
| ,, Carbonate | 5 to 15 gr. | 458 |
| ,, Gauze | | 458 |
| ,, Solution (Volckmann's) | | 458 |
| Thymotal | 5 to 15 gr. | 458 |
| Thymus Gland | | 521 |
| Thyro-glandin | | 523 |
| Thyroid Gland | | 522 |
| ,, Powder | 3 to 10 gr. | 522 |
| ,, *Solution* | 5 to 15 m. | 522 |
| *Thyroideum Siccum* | 3 to 10 gr. | 522 |
| Thyro-iodin | | 522 |
| ,, Tablets of | | 522 |
| *Tinctura Aconiti* | 5 to 15 m., or 2 to 5 m. repeatedly | 47 |
| ,, ,, Ferocis | 1 minim hourly | 474 |
| ,, ,, (Fleming) | 1 to 5 m. | 47 |
| ,, ,, Heterophylli | 10 to 60 m. | 475 |
| ,, ,, (Turnbull) | 1 to 5 m. | 47 |
| ,, *Actææ* | 30 to 60 m. | 153 |
| ,, *Adhatodæ* | 30 to 60 m. | xxiv |
| ,, Agarici | 20 to 60 m. | 54 |
| ,, *Aloes* | 1½ to 2 dr., or ½ to 1 dr. repeated | 64 |
| ,, ,, P.G. iv. (1 to 5 S.V.R.) | 5 to 15 m. | |
| ,, ,, Composita, P. Aus. Add. | 1 to 2 dr. | 64 |
| ,, *Alstoniæ Constrictæ* | 5 to 20 m. | xxiv, 475 |
| ,, ,, *Scholaris* | ½ to 1 dr. | xxiv, 476 |
| ,, Ammoniæ Composita P.L. | | 71 |
| ,, *Andrographidis* | ½ to 1 dr. | xxiv |
| ,, Antiperiodica | 1 to 4 dr. | 418 |
| ,, Apis Mellificæ | 1 m. hourly | |
| ,, Apocyni Cannabini | 5 to 60 m. | 75 |
| ,, *Aristolochiæ* | ½ to 1 dr. | xxv |
| ,, *Arnicæ* | ½ to 1 dr. | |

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|---|---|---|
| *Tinctura Arnicæ Florum* ... ... | ...½ to 1 dr. | xxv |
| ,, *Asafetidæ* ... ... ... | ½ to 1 dr. | |
| ,, Asclepiadis Cornuti ... ... | ... 5 to 40 m. | 477 |
| ,, ,, Incarnatæ ... | ... 5 to 40 m. | 477 |
| ,, ,, Tuberosæ ... | ... 5 to 40 m. | 477 |
| ,, *Aurantii* ... ... ... | ...½ to 1 dr. | 96 |
| ,, ,, B.P.1885 (dried peel) | ... 1 to 2 dr. | 96 |
| ,, *Azadirachtæ Indicæ* | ... ½ to 1 dr. | xxv |
| ,, Baptisiæ ... ... ... | ... 5 to 30 m. | 98 |
| ,, *Belladonnæ* ... ... ... | ... 5 to 15 m. | 102 |
| ,, ,, Ætherea ... ... | ... ... ... | 102 |
| ,, *Benzoini Composita* ... ... | 30 to 60 m. | 64 |
| ,, ,, Simplex, B.P.C. 1 in 10 | ... ... | 64 |
| ,, *Berberidis* ... | ... ½ to 1 dr. | xxv |
| ,, Blepharis ... ... ... ... | 16 m. | 477 |
| ,, Boldoæ... ... ... ... | 10 to 20 m. | 477 |
| ,, Bryoniæ ... ... ... | ... 1 to 10 m. | 111 |
| ,, *Buchu* ... ... ... ... | ...½ to 1 dr. | |
| ,, Cacti Grandiflori ... ... | ... 2 to 10 m. | 477 |
| ,, Calendulæ Florum ... ... | ... 5 to 20 m. | 122 |
| ,, *Calotropis* | ½ to 1 dr. | xxv |
| ,, *Calumbæ* ... ... ... | ½ to 2 dr. | |
| ,, *Camphoræ Composita* ... | 30 to 60 m. | 563 |
| ,, *Cannabis Indicæ* ... ... | ... 5 to 15 m. | 126 |
| ,, *Cantharidis* ... 5 to 15 m. or 2 to 5 m. repeated | | 128 |
| ,, *Capsici* ... ... ... | 5 to 15 m. | 130 |
| ,, ,, Ætherea ... ... ... | ... ... | 130 |
| ,, ,, Concentrata (Turnbull) | ... ... ... | 130 |
| ,, ,, Fortior, B.P.C. ... | ... 1 to 3 m. | 130 |
| ,, *Cardamomi Composita* ... | ½ to 1 dr. | |
| ,, Carminativa ... ... ... | ... 2 to 10 m. | 252 |
| ,, Cascara Sagrada | 10 to 60 m. | 134 |
| ,, *Cascarillæ* ... ... ... | ½ to 1 dr. | |
| ,, Castorei ... ... ... | ½ to 1 dr. | |
| ,, *Catechu* ... ... ... | ½ to 1 dr. | |
| ,, *Chiratæ* ... ... ... | ½ to 1 dr. | |
| ,, Chloroformi Composita ... | ... 5 to 60 m. | 149 |
| ,, ,, *et Morphinæ Composita* | 5 to 15 m. | 148 |
| ,, *Cimicifugæ* | 30 to 60 m. | 153 |
| ,, *Cinchonæ* ... ... ... | ½ to 1 dr. | 156 |
| ,, ,, *Composita* ... | ½ to 1 dr. | 156 |
| ,, *Cinnamomi* ... ... ... | ½ to 1 dr. | |
| ,, *Cocci*, as colouring | ... 5 to 15 m. | |
| ,, Colchici Floris Recentis .. | 10 to 30 m. | |
| ,, ,, *Seminum* ... ... | 5 to 15 m. | |
| ,, Collinsoniæ ... ... ... | ... ½ to 2 dr. | 178 |

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|---|---|---|
| Tinctura Colocynthidis, P.G. | 3 to 15 m. | |
| ,, *Conii* | 30 to 60 m. | |
| ,, Convallariæ | 5 to 20 m. | 202 |
| ,, *Coscinii* | ½ to 1 dr. | xxvi |
| ,, Coto | 10 to 30 m. | 203 |
| ,, *Croci*, as colouring | 5 to 15 m. | |
| ,, *Cubebæ* | ½ to 2 dr. | 213 |
| ,, *Digitalis* | 5 to 15 m. | 217 |
| ,, Droseræ Rotundifoliæ | 5 to 10 m. | 479 |
| ,, Elaterii Composita | 10 to 30 m. | 221 |
| ,, Ergotæ | 5 to 30 m. | 225 |
| ,, ,, *Ammoniata* | 30 to 60 m. | 227 |
| ,, Erythrophlei | 5 to 1 m. | 229 |
| ,, Eucalypti Foliorum | 15 to 120 m. | 232 |
| ,, ,, Gummi | 20 to 40 m. | 233 |
| ,, Euonymi | 10 to 40 m. | 234 |
| ,, Euphorbiæ Piluliferæ | 10 to 30 m. | 235 |
| ,, Ferri Acetatis | 5 to 30 m. | 244 |
| ,, ,, Muriatis | 10 to 30 m. | 240 |
| ,, ,, *Perchloridi* | 5 to 15 m. | 239 |
| ,, ,, Pomata | 15 to 30 m. | 244 |
| ,, *Gallæ* | ½ to 2 dr. | |
| ,, *Gelsemii* | 5 to 15 m. | 251 |
| ,, *Gentianæ Composita* | ½ to 1 dr. | |
| ,, Gossypii Radicis | 1 dr. | 259 |
| ,, Guaiaci, 1 in 5 (Blood Test) | | 529 |
| ,, ,, *Ammoniata* | 30 to 60 m. | 71 |
| ,, Guaranæ | 30 to 60 m. | 261 |
| ,, *Hamamelidis* | 30 to 60 m. | 262 |
| ,, *Hydrastis* | 30 to 60 m. | 276 |
| ,, *Hyoscyami* | 30 to 60 m. | |
| ,, Ignatiæ | 3 to 20 m. | 351 |
| ,, Indurjao, Inderjao | ½ to 2 dr. | 481 |
| ,, *Iodi* | 2 to 5 m. | 302 |
| ,, ,, Ætherea | | 302 |
| ,, ,, Decolorata | | 302 |
| ,, ,, ,, Fortior | | 302 |
| ,, ,, Oleosa | | 302 |
| ,, Iodinei, P.E., 1 in 16 | | 300 |
| ,, *Jaborandi*, 1 in 5 | 30 to 60 m. | 308 |
| ,, *Jalapæ* | 30 to 60 m. | 313 |
| ,, ,, *Composita* | ½ to 1 dr. | xxix 313 |
| ,, *Kaladanæ* | ½ to 1 dr. | xxvii |
| ,, *Kino* | 30 to 60 m. | |
| ,, Koromiko | ½ to 1 dr. | 482 |
| ,, *Krameriæ* | 30 to 60 m. | |

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|---|---|---|
| Tinctura Lachnanthis | 1 to 10 m. | 482 |
| ,, Laricis | 20 to 30 m. | |
| ,, *Lavandulæ Composita* | 30 to 60 m. | |
| ,, Laxativa | 20 to 60 m. | 135 |
| ,, *Limonis* | 30 to 60 m. | |
| ,, Lobeliæ, B.P.1885 | 10 to 30 m. | |
| ,, *Lobeliæ Ætherea* | 5 to 15 m. | |
| ,, *Lupuli* | 30 to 60 m. | 320 |
| ,, Lupulinæ | 10 to 60 m. | 320 |
| ,, Lycopodii | 15 to 60 m. | 321 |
| ,, Menthol Ætherea | ... | 32[illegible] |
| ,, *Myrrhæ* | 30 to 60 m. | |
| ,, *Nucis Vomicæ* | 5 to 15 m. | 350 |
| ,, *Oliveri Corticis* | ½ to 1 dr. | xxviii |
| ,, *Opii* | 20 to 30 m., or 5 to 15 m. repeated | 363 |
| ,, *Opii Ammoniata* | 30 to 60 m. | 363 |
| ,, Phosphori Composita | 3 to 12 m. | 381 |
| ,, Physostigmatis | 5 to 15 m. | 38[illegible] |
| ,, Phytolaccæ | 3 to 10 m. | 389 |
| ,, *Picrorhizæ* | ½ to 1 dr. | xxviii |
| ,, *Podophylli* | 5 to 15 m. | 404 |
| ,, ,, *Indici* | 5 to 15 m. | xxviii |
| ,, Podophyllin Ammoniata | 2 to 20 m. | 404 |
| ,, *Pruni Virginianæ* | 30 to 60 m. | 407 |
| ,, Pulsatillæ | 1 to 5 m. increased | 408 |
| ,, *Pyrethri*, 1 in 5 alc., 70 per cent. | ... | ... |
| ,, *Quassiæ* | 30 to 60 m. | |
| ,, Quebracho | 30 to 60 m. | [illegible] |
| ,, *Quillaiæ* | 30 to 60 m. | 4[illegible]3 |
| ,, *Quininæ*, 2 per cent. | 30 to 60 m. | 414 |
| ,, ,, *Ammoniata*, 2 per cent. | 30 to 60 m. | [illegible] |
| ,, Randiæ Dumetorum | 15 to 60 m. | 4[illegible]1 |
| ,, *Rhei Composita* | 2 to 4 dr., or ½ to 1 dr. repeated | |
| ,, ,, Aquosa, P. Aus. Add. | 1 to 2 dr. | [illegible] |
| ,, Rheis | 2 to 5 m. | 423 |
| ,, Rumicis | 1 to 10 m. | 424 |
| ,, Sabinæ | 20 to 60 m. | |
| ,, *Scillæ* | 5 to 15 m. | |
| ,, Scopolæ | 5 to 30 m. | [illegible] |
| ,, Senecionis | 1 to 2 dr. | 4[illegible]5 |
| ,, *Senegæ* | 30 to 60 m. | |
| ,, *Sennæ* | 2 to 4 dr., or ½ to 1 dr. repeated | |
| ,, *Serpentariæ* | 30 to 60 m. | |
| ,, *Stramonii* (leaves) | 5 to 15 m. | |
| ,, *Strophanthi* | 5 to 15 m. | 443 |
| ,, *Sumbul* | 30 to 60 m. | |

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|---|---|---|
| Tinctura Tayuyæ | 6 to 15 m. increased | 486 |
| ,, Thujæ | 2 to 5 m. | 457 |
| ,, *Tinosporæ* | ½ to 1 dr. | xxix |
| ,, *Tolutana* | 30 to 60 m. | |
| ,, *Urgineæ* | 5 to 15 m. | |
| ,, Valerianæ, 1 in 8 S.V.T. | 30 to 120 m. | xxxii |
| ,, ,, *Ammoniata* | ½ to 1 dr. | xxx, 71 |
| ,, Veratri Viridis | 5 to 15 m. | 467 |
| ,, Verbasci | 20 to 60 m. | 468 |
| ,, *Zingiberis* | 30 to 60 m. | |
| ,, Zingiberis Fortior, B.P.1885 | 5 to 20 m. | xxxii |
| Tincturæ | | 459 |
| Tincture, Warburg's | 1 to 4 dr. | 418 |
| *Tinospora* | | xxix |
| *Todalia* | | xxix |
| Toluol | | 165 |
| Tolypyrin | 5 to 20 gr. | 176 |
| Tolysal | 5 to 20 gr. | 176 |
| Tonga | 1 to 2 dr. | 486 |
| Tonka or Tonquin Bean | | 204 |
| *Toughened Caustic* | | 79 |
| Tow, Carbolised | | 11 |
| *Tragacantha* | 2 to 10 gr. | 460 |
| Traumaticin | | 151 |
| Traumatol, *syn.* Iodocresol | | 289 |
| Trianosperma Ficifolia | | 486 |
| Tribromophenol | | 16 |
| ,, Bismuth | 5 to 20 gr. | 16 |
| Tribulus terrestris (Gokhru) | | 258 |
| Trichloracetic Acid | | 17, 527 |
| Trichlorbutylidene Glycol | 5 to 20 gr. | 112 |
| Trichlorethylidene Glycol | 5 to 20 gr. | 137 |
| Trichloromethane | 1 to 5 m. | 140 |
| Trichlorphenol | | 17 |
| Tri-iodomethane | ½ to 3 gr. | 290 |
| Trikresol | | 9 |
| Trimethylamina | 20 to 60 m. of solution | 481 |
| Trimethylaminæ Hydrochloridum | 2 to 3 gr. | 461 |
| Trinitrin | | 345 |
| ,, *Solution of* | ½ to 2 m. | 346 |
| Trinitrophenic Acid | ¼ to 2 gr. | 26 |
| Trional | 10 to 30 gr. | 449 |
| Trioxymethylene | | 62 |
| Triticum | | xxiv, 462 |
| Triturations | | 462 |

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|---|---|---|
| Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar, R. with Rose, T. with Tolu: | | 463 |
| *Acidi Benzoici*, S. and F., 1½ gr. (Stimulant Voice Lozenge), T.H.... | 1 every 4 hours | 2 |
| ,, *Carbolici*, T., 1 gr., T.H. | ... 4 or 5 daily | 12 |
| ,, Citrici (Acid Lemon Drops) | ... *ad libitum* | |
| ,, *Tannici*, F., ½ gr. ... | ... 1 frequently | |
| ,, Tannici, F. 1½ gr., T.H. | 1 every 3 or 4 hours | |
| ,, Tannici et Capsici, F. ... | ... 1 frequently | |
| Aconiti, F., Tinct. ½ m., T.H. | 1 every ½ hour | |
| Althææ (Pastilles de Guimauve), T.H. | *ad libitum* | |
| Aluminis, S., 1 gr. ... ... | 1 or 2 after meals | |
| Ammonii Bromidi, F., 2 gr. ... | 1 every 3 hours | 68 |
| ,, Chloridi, F. 2 gr., T.H. | ,, | 68 |
| ,, ,, cum Glycyrrhiza | ,, | 69 |
| Antacidi (Sir W. Roberts) | | |
| Calcii Carbonatis Precipitati 3½ gr.<br>Magnesii Carbonatis 2½ gr.<br>Sodii Chloridi 1 gr. | | |
| *Bismuthi Compositi*, R., 2 gr. ... | 1 or 2 after meals | 106 |
| Boracis, F., 3 gr., T.H.... | 1 every 3 or 4 hours | |
| ,, et Potassii Chloratis, F. | ,, ,, | |
| Camphoræ, S. ... ... ... | ... 1 frequently | 124 |
| Capsici, S. (and as Voice Jujubes) ... | , | |
| Carbonis S. (Willow Charcoal) | 1 or 2 after meals | |
| Carnis (Meat Lozenges) ... ... | *ad libitum* | 236 |
| Cascara F. Ext. gr. 2½ c. Mentha Pip. ... | 1 or 2 | 123 |
| Catechu, F., 2 gr., T.H. ... | 1 every 3 hours | |
| *Catechu*, S., 1 gr. ... ... ... | ,, | |
| Cocainæ Hydrochloridi, S., 1-12 gr. | . . | 185 |
| Codeinæ, 1-8 gr., S. ... ... | ... 4 or 5 daily | 195 |
| Cubebæ, F., ½ gr., T.H.... | 1 every 3 or 4 hours | 213 |
| *Eucalypti Gummi*, F., 1 gr., T.H. | ,, ,, ,, | 233 |
| ,, Compositi, F., 1 gr. | ,, ,, ,, | 234 |
| *Ferri Redacti*, S., 1 gr. ... | ... 1 or 2 after meals | |
| Gelatini ... ... ... ... ... | *ad libitum* | |
| Glycerini (Pastils) ... ... ... | ,, ,, | |
| Glycyrrhizæ (Pontefract Cakes or Pipes) ... | ... | 257 |
| Guaiaci, F., 2 gr., T.H.... ... | ... 3 to 6 daily | |
| ,, *Resinæ*, F., 3 gr. ... ... | ... ... | |
| Hydrargyri Subchloridi, S., 1 gr. and 2 gr. .. | ... | |
| *Ipecacuanhæ*, F., ¼ gr.... ... | ... 4 or 5 daily | 396 |
| Ipecacuanhæ, S., 1 gr. ... ... | ... 2 or 3 daily | |
| Kino, F., 2 gr., T.H. ... | 1 every 3 or 4 hours | |
| *Krameriæ*, F., Ext. 1 gr.... | 1 ,, ,, ,, | |
| ,, *et Cocainæ*, 1/20 gr., F. | | |

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| Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar, R. with Rose, T. with Tolu : | | |
| Lactucæ, F., Ext., 1 gr., T.H. | 1 every 1 or 2 hours | |
| Lavandulæ, S. ... ... ... ... | *ad libitum* | |
| Menthæ Piperitæ ... ... ... | ,, ,, | |
| ,, ,, Fortiores ... ... | ,, ,, | |
| *Morphinæ*, T., 1-36 gr. ... ... ... | 4 or 5 daily | 335 |
| ,, F., 1-36 gr.... ... ... | ,, ,, ,, | 335 |
| ,, 1-36 gr., *et Ipecacuanhæ*, 1-12 gr., T. (and F., unofficial) | 4 or 5 daily | 306, 335 |
| Morphinæ 1-40 gr., & Emetin, 1-80 gr., S. | ,, ,, ,, | 306 |
| Moschi, S. ... ... ... ... | *ad libitum* | |
| Nitroglycerini, 1-200 gr., 1-100 gr., 1-75 gr. 1-50 gr., 1-25 gr. ... ... ... ... ... | | 346 |
| *Opii* S., Ext. 1-10 gr. (and Liquorice), | 2 to 6 daily | 363 |
| Papain, ½ gr. ... ... ... ... ... ... | | 367 |
| ,, cum Cocaina ... ... ... ... ... | | 368 |
| Paregoric, S. ... ... ... ... | 2 to 6 daily | |
| *Potassii Chloratis*, R., 3 gr. ... ... | 3 to 6 daily | |
| ,, Chloratis, F., 3 gr., T.H. ... | 3 ,, 6 ,, | |
| ,, Citratis, F., 3 gr., T.H. ... | 3 ,, 6 ,, | |
| ,, Nitratis, S., 3 gr. ... ... | 3 ,, 6 ,, | |
| ,, Tartratis Acidi, F., 3 gr., T.H. ... ... ... ... | 3 ,, 6 ,, | |
| Pyrethri, F., 1 gr., T.H. ... ... | 3 ,, 6 ,, | |
| Rhamni Frangulæ (Aperient Fruit Lozenges) ... ... ... ... | 1 to 2 | 423 |
| Rhei, Zingiberis et Cardamomi (Digestive Tablets) | 1 or 2 after meals | |
| Ribis Nigri (Fruit Lozenges)... ... | *ad libitum* | |
| Rosæ, S. ... ... ... ... ... | ,, ,, | |
| *Santonini*, S., 1 gr. ... ... | 1 or 2 at bedtime | 427 |
| Sedativi, F., Ext. Opii, 1-10 gr., T.H. | 3 to 6 daily | |
| *Sodii Bicarbonatis*, R., 3 gr. ... | 1 or 2 after meals | |
| Sodii et Zingiberis, S. ... ... | 1 or 2 after meals | |
| ,, Chloratis, F. and S., 3 gr., | 3 to 6 daily ... | 431 |
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| *Turpeth* or Turbith Root | 5 to 20 gr. | xxix |
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| ,, ,, *Carbolici*, 4 per cent. | | 12 |
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| ,, *Antimoniale*, 1 in 220, 10 to 30 m. | emetic 2 to 4 dr. |  |
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| ,, *Ferri Citratis* ... ... ... ... | 1 to 4 dr. |  |
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# THERAPEUTIC INDEX
OF
# DISEASES AND SYMPTOMS.

*N.B.—The Remedies are arranged in Alphabetical order; all those added in the Fifth, Sixth, and Seventh Editions are printed in italics; those added in the Eighth and Ninth Editions are again in Roman type; those now added are in italics.*

**Abortion, Threatened.**—Hydrastis, Hydrastin, Morphina, Opium, Sumbul, Viburnum prunifolium, *Codeina.*

**Acne.** — *Internal* — Calx Sulphurata, Hypophosphites, Potassii Bromid., Quininæ et Ferri Citras, Sodii Bromid., Sulphur.—— *Local* —Calaminæ Lotio, Belladonna, Hydrarg. Perchlorid. Lotio, Ichthyol, Sulphur. Iodid. Ung., Sulphur. Hypochloritis Ung., Thymol Ung., *Lanoline*, *Mollin.*—— *Internal.*--Liquor Auri et Arsenii Bromidi, Liquor Auri et Hydrarg. Bromidi, *Acid. Nitric. stabs.*, *Euresol*, *Guaiacol and Sulphur tablets.*

**Ague.**—Acid. Salicylic. and Salicin, Apiol, Arsenic, Chinolinum, Cinchonina, Cinchonidinæ Sulphas, Eucalyptus Globulus, Hydrastis, Quinetum, Quininæ Sulph. and Hydrobrom., Quinidinæ Sulph., Sodii Hyposulph., Warburg's Tincture, *Ammonii Picras*, *Berberina*, *Methylene Blue*, *Piperina*, *Gelsemium*, *Phenalgin.*

**Albuminuria.**—Acid. Gallic., Fuchsine, Jaborandi and Pilocarpine, Ozonic Ether, *Nitroglycerin and Nitrites of Amyl and Sodium*, Strontii Lactas.

**Alcoholism.**—Arsenic, Capsicum, Cinchona rubra, Hydrastis, Lupulin, Nux Vomica, Phosphorus, Picrotoxin, Quinine preps., Strychnine, *Cactus*, *Hyoscinæ Hydrobromidum*, *Atropina*, *Auri Chlorid.*, *Chloral Hydras.*

**Alopecia.**—*Internal*--Pilocarpine, Strychnine.——*Local* -Ammon. Liquor, Cantharides preps., Iodum, Petroleum Spirit, *Pilocarpine Nitrate Lotion*, Lotio Resorcini, Oxygen. —Hydrargyri Oleas.

**Amenorrhœa.** Actæa and Cimicifugin, Aloes, Apiol, Caulophyllin, Ergota, Gossypii Rad. Cortex, Iron Salts, Manganesii Oxidum, Phosphas and Sulphas, Menyanthes, Potass. Permang., Pulsatilla, Thuja, *Auri Chlor.*, *Hydrastin*, Senecio.

**Anæmia.** Arsenic, Calcii Phosph., Calcii Hypophosph., Ferri Bromid., Ferri Chloroxid. Liquor, Ferrum Dialysat., Ferri Hypophosph., Ferri Perchlorid., Ferri Phosph., Ferri Sulph., Pil. Ferri Carb. (Blaud), and Pil. Ferri Sulph., Phosphorus, Quinine preps., Sodii Hypophosphis, *Cetraria*, *Cupri Arsenis*, *Liquor Ferri Albuminati*, *Liquor Ferri Peptonati*, *Liquor Ferro-Manganesii Peptonati*, *Tinctura Ferri Pomata*, *Levico Water, mild and strong*, *Oxygen*, *Strophanthus*, *Syrupus Trium Phosphatum*, Ferratin, Calcii and Ferri Glycerophosphas, Tinctura Martis. -Carniferrin, Somatose, *Arsen.-Hæmol*, *Bromo-Hæmol*, *Hæmol.*

**Anæsthetics by inhalation.**—A.C.E., Æther, Æthyl Bromid., Æthyl Iodid., Carbon. Tetrachlor., Chloramyl, Chloroform, Ethideni Dichlorid., Methylene, Nitrous Oxide Gas, *combined Chloroform and Cocaine*, *Hydramyl-ether*, *Æthyl Chlorid. (Kelene)*, *Billroth's Mixture.*

**Anæsthetics, Local.**—Æther, Cocaine Salts, Ice, Menthol, Methyl Chloride, Rhigolene, *Acid. Carbolic.*, *Compound Anæsthetic Ether*, *Erythrophlœinæ Hydrochloridum. Stypage Tampons of Methyl Chloride.* Eugenol Acetamide, Anæsthile, Tropacocaine.—Eucaine, Holocaine, Orthoform, *Æthyl Chlorid.*, *"New" Orthoform*, *Nirvanin.*

**Aneurism.**—Aconite, Amyl Nitris (?), Digitalis, Ergotina, **Nitroglycerin (?), Potassii Iodidum.**

**Angina Pectoris.**—Æther, Æthyl Iodid., Amyl Nitris, Arsenic, Morphinæ inj. hypod., Nitroglycerini Liquor and Tabellæ, Sodii Nitris, *Iso-butyl Nitris*, *Methylal*, *Pyridin.*—Erythrol Nitrate tablets, Mannitol Nitrate tablets, *Carbonic Snow externally.*

**Anthelmintics.**—See Parasites, Intestinal.

**Antidotes** referred to in the text; see list of *Emetics.*

To *Acid. Carbolic and its homologues.*—*Albumen Ovi*, *Alcohol*, *Amyl Nitris*, *Apomorphine*, *Calcii Saccharas*, *Magnes. Sulph.*, ***Olea, Oleum Camphoratum, Sodii Sulphas.***

To *Acids, Mineral.*—Alkalis, Ammonia, Calc. Saccharas, Chalk, Lime Water, Magnesia, Milk, Morphine, Potass. Bicarb., Sal Volatile, Soap and Water, Sodii Bicarb.

To *Aconite* and *Aconitine.*—Amyl Nitris, Atropina, Belladonnæ Tinct., Digitalis Tinct.

To *Alkalis, Caustic.*—Acid. Acetic., Acid. Citric., Demulcents, Gruel, Lemon or Orange Juice, Milk, Olive Oil, **Vinegar, White of Egg.**

To *Arsenic.*—Antidotum Arsenici, Liquor Ferri Dialysatus, **Magnesia.**

To *Atropine* and *Belladonna.*—Caffeina, Jaborandi Tinct., Pilocarpina.

To *Choloroform narcosis.*—Amyl Nitris inhaled, Æther, **Atropina or Strychnina by hypod. injection.**

To *Cocaine.*—Æther, Ammonia, Amyl Nitris, Chloroform, **Resorcin.**

To *Digitalis.*—Acid. Gallic., Acid. Tannic., Aconiti Tinct., **Æther.**

To *Gelsemium.*—Amyl Nitris, Atropina, Nitroglycerini Liquor and Tabellæ, Strychninæ Liquor.

To *Hydrocyanic Acid.*—Æther, Ammonia, Atropina, Liquor Ferri Dialysatus.

To *Hyoscine* and *Hyoscyamine.*—as Atropine.

To *Mercuric Chloride.*—Apomorphinæ inj. hyp., Æther, **Albumen Ovi.**

To *Morphine* and *Opium.*—Ammonia, Amyl Nitris, Atropina, Caffeina, Nitroglycerini Liq. and Tabellæ, Pilocarpina, Picrotoxinum, Potass. Permanganas, *Strychninæ.*

To *Muscarine.*—Atropina.

To *Nitroglycerin.*—Atropina, Bellad. Tinct., Ergota, **Strychnina.**

To *Oxalic Acid.*—Apomorphine inj. hyp., Calcii Saccharas, **Chalk.**

To *Phosphorus*—French Oil of Turpentine, Magnes. Sulph., Potass. Permanganas.

To *Picrotoxin*—Chloral Hydras., Potass. Bromidum.

**To *Pilocarpine*—Atropina, Bellad. Tinct.**

To *Silver Nitrate*—Apomorphinæ inj. hyp., Demulcents, **Sodii Chloridum.**

To *Strychnine*—Æther, Amyl Nitris, Chloroform or Ether inhaled, Curara, Paraldehyde, Potass. Bromidum.

**Antiseptics.**—See **Wounds.**

**Aphthæ.**—*Internal*—Acid. Nit. Dil., Potass. Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Sulphuros., Alumen, Bismuth, Borax, and Glyc. of, Potass. Chloras, Potass. Permang., Sodii Chloras., Sodii Chlorinat. Liquor, *Iodoform, Iodol, Lotio Nigra et Glycerini, part. æq.*

**Asthma.**—*Internal*—Æthyl Iodid., Amyl Nitris, Antimony, Arsenic, Belladonna, Caffeine, Cannabis, Cannabin Tannas, Chloral Hydras, Chloroform, Colchicum, Delphina, Euphorbia pilulifera, Grindelia, Jaborandi, Lobeliæ Tinct. and Tinct. Ætherea, Nitroglycerin, Pilocarpine, Quebracho, Stramonium.——*Local*—Acid. Sulphuros. Vapor, Arsenical Cigarettes, Chloroform Vapor, Coca or Eucalyptus leaves smoked, Potass. Nit. fumus, Pyridine, Stramonium fumes, Tobacco fumes, Bliss', Green Mountain, and Himrod's Cures by fumes, *Ammonii Bromidi Vapor., Cubeb Cigarettes, Pulvis Lobeliæ Co.——Internal—Anemonin, Coca* and *Cocainæ Salicylas, Codeine, Hyoscine, Iso-butyl Nitris, Potassii Cobalto-nitris, Sodii Nitris,* Aniline Sulphate, *Potass. Iodidum.*

**Bed Sores.**—*Local*—Acid. Tannic. Glycerin., Alcohol, Argent. Nit. in Nitrous Ether solution, Brandy, Glycerin, Iodoform. Gossyp. and Ung., Peruv. Bals., Tannin, Iodoform **and Starch Powder, *Resorcin, Naftalan.***

**Bile, Deficiency of.**—Hydrarg. cum Cretâ, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Taraxacum, *Sodii Salicylas.*

**Biliousness.**—Euonymin, Hydrastis and Hydrastin, Iridin, Juglandin, Leptandrin, Podophyllin, Sanguinarin, Seidlitz Powders, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves., Stillingia.

**Bites and Stings.** *Local*—Alcohol, Ammon. Liquor, Arnicæ Tinct., Chloroform, Cocainæ Hydroch. Liquor, Onion Juice, Potass. Permang. (for Serpent's venom), Sodii Bicarb., Thymol and Starch powder, Thymol Ung.—*For Snake Bite.*—*Acid. Chromic., Strychninæ inject. hypod.*, Tinct. Ammon. Comp., Chloral cum Camphora (for sting of scorpion)—**Calmette's Anti-Venomous Serum.**

**Boils and Carbuncles.**—*Internal*—Alkalis, Arsenic, Calx Sulphurata, Ferri Perchlorid., Hypophosphites, Sulphides, Sulphurous Waters, Syr. Sulphatum, Yeast.—*Local*—Argent. Nit., Belladonnæ Glycerin. (as pigment and on poultices), Collodium, Fermenti Cataplasma, Opii Ext., *Carbolated Camphor.—Internal—Pilulæ Sulphatum, Levurine, Nuclein, Petrosulfol.*

**Brain, Softening of.**—Hypophosphites, Iron Salts, **Morrhuæ Ol., Phosphorus, *Arsen.-Hæmol.***

**Breast, Inflammation of.**—*Local*—Belladonnæ Ext **Glycerin. and Linim., *Phytolacca,***

**Breath, Fetid.**—*Local*—Acid. Salicylic., Calcii Permang., Camphora, Creosoti Vapor, Myrrh with Borax Tincture, Sanitas (Toilet).

**Bright's Disease.**—Alkalis, Cannabis, Digitalis, Elaterium, Hydrastis, Jaborandi and Pilocarpine, Nitroglycerin, Potass. Iodid., Scoparii Succus, *Antipyrine, Auri Chlorid., Diuretin*, Iodo-Caffeine, Iodo-Theobromine, Symphorol.

**Bronchitis, Acute.**—Aconite, Ammon. Acet. Liquor, Antimony, Ipecacuanha, Pulsatilla, *Apocodeinæ Hydrochlorid., Cubebæ Tinct., Oxygen, Vapor Benzoin, or Camphor.*

**Bronchitis, Chronic.**—*Internal*—Ammon. Carb., Ammon. Chlorid., Apomorph. Hydrochl., Arsenic, Benzoates and Benzoin. Tinct., Eucalyptus Globulus, Grindelia, Morphine preps., Morrhuæ Ol., Piscidia, Prunus Virginiana, Pulsatilla, Scilla, Senega, Tar, Tolu. Bals.——*Local*—Acid. Carbolic. Vapor, Acid. Sulphuros. Vapor, Creosoti Vapor, Croton Ol. cum Collod., Croton Linim., Iodi Linim., Iodi Vapor., *Anemonin, Benzol, Creolin, Hypnal, Quillaia, Syrupus Picis Liquidæ, Terebenum purum, Terpin hydrate, Terpinol, Yerba santa*, Allium preps., Liq. Apomorph. Hydrochlor., Syrup. Picis cum Codeina, *Dionin, Heroin, Inula Helenium, Vapor Benzoini, Camphoræ or Terebeni.*

**Bruises.**—*Local*—Arnicæ Tinct. (well diluted), Calendula, Hamamelis, Hazeline, *Hydrastis Tinctura, Collod. flexile.*

**Burns and Scalds.**—*Local*—Acid. Boric Ung., Calamin. Cerat., Chartazine, Cocainæ Ceratum, Iodoform., Lini Ol. cum Aquâ Calcis, Thymol. Ung., Vaseline, Zinci Oleat. Ung., Zinci Ung., *Aristol, Dermatol, Europhen, Lanoline, Mollin*, Epidermin, Glyceritum Vitelli, Loretin.—Airol, Actol, Iodoformin, Itrol, Sanoform, *Acid Picric, Ichthyol.*

**Bubo.**—*Local*—Chlori Aqua, Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Ung., Hydrogen. Peroxid.

**Calculi, Biliary.**—*Alkalies, Ox Bile, Soap, Sodii Bicarb.*

**Calculi, Urinary.**—Alkaline Carbonates, Ammon. Benz. and Phosph., Calcis Aqua, Lithium preps., Mineral Acids (for Phosphatic), Potass. Citras, Sodii Benz. and Hippuras, *Pichi, Piperazina*, Uricedin, *Aqua destillata, Triticum.*

**Cancer.**—*Internal*—Arsenic preps., Calx Sulphurata, Chloral Hydras and Opium preps. (as sedatives), Terebinth. Chia.——*Local*—Acid. Carbolic. (caustic), Acid. Carbolic. Glycerin., Acid. Chromic., Acid. Salicylic. cum Oleo, Bromum cum Acid. Oleic., Hydrarg. Nit. Acid. Liquor, Iodoform., London Paste, Morphine, Morphinæ Oleat., Quininæ Salicylas, Tannin and Opium, Vienna Paste, Zinci Chlorid. and Paste. *Auramine, Methyl Violet, Pyoktanin, Resorcin*, Acid. Nitric. Fumans, Acid. Sulph. Fumans, Michel's Paste. *Calcii Carbid., Symphytum poultice.*——*Internal*—*Condurango, Mist. Tereb. Chiæ.*—Chelidonium, Coley's fluid.

**Cardiac Tonics**—Adonidin, Adonis Vernalis, Caffeina, Convallaria, Digitalis, Erythrophlœum, Scilla, Strychnina, Veratrum Viride, *Ouabaïna, Sparteinæ Sulphas, Strophanthus*, Cardin, Carpaine, Oxysparteinæ Hydrochloridum, Uropherin, *Coronillæ Extractum.*

**Caries.**—Calcii Chlorid., Calcii Hypophosph., Calcii Phosph., Saccharated Wheat Phosphates, *Hæmol.*

**Catarrh, Bronchial.**—Aconite, Actæa, Aldehyd. Vapor, Ammon. Chlorid., Antim. Tart., Ferrier's Snuff, Prunus Virginiana, Pulsatilla, Sinapis Emplast., Spt. Æther. Nitrosi, *Cubebæ Tinct., Eucalypti Ol., Euphorbia Pilulifera.*

**Catarrh, Gastro-intestinal.**—Bismuth preps., Caffeine, Eucalyptus Globulus, Hydrastis, Hydrocyanic Acid, Salines, *Betol, Bismuthi Salicylas, Collinsonia Canadensis,* Potassii Bichromas, *Alkalies, Bismuthi Benzoas, Oxy-Bromide, Phosphas, Sulpho-Carbolas, Sulpho-Cyanid., Calcinol, Opium.*

**Catarrh, Vesical and Cystitis.**—Acid. Lactic, Alkalis, Benzoates, Buchu, Eucalyptus Globulus, Gokhru, Hydrastis, Juniper, Pareira, Triticum repens, *Arbutin, Betol, Collinsonia Canadensis, Saccharinum, Salol,* Acid. Camphoric., **Alphol, Pichi, Salacetol.—Antinosin.**

**Catarrh, Nasal.**—Acid. Carbolic. Buginarium, Bismuth. Co. Pulv., Carbolised Smelling Salts, Iodoformi Buginarium and Ung. Rosatum, *Eucalypti Oleum, Camphor inhalation, Pilula Atropinæ Quininæ et Arsenici, Menthol inhalation, injection, wool and snuff, Menthol and Camphor inhalation, Supra Renal Extract.*

**Catarrh, Uterine.**—*Local*—Acid. Carbolic. Glycerin., Boracis Glycerin., Camphorated Carbolic Acid, Iodoform. Gossyp. and Pessus, Plumbi Subacet. Glycerin., Opii et Amyli Enema, Zinci Sulph. Uterine Pencils, and with Alum.

**Chancres, Soft.**—*Local*—Hydrarg. Flav. Lotio, Hydrarg. Nig. Lotio, Hydrarg. Subchlor., Iodoform. and Ung., Plumbi Acet. Lotio, Resorcin, Acid. Nitric. Fumans, Acid. Sulph. Fumans, Michel's Paste.—Airol. *Acid. Dichlor-Acetic.*

**Chapped Skin.**—*Local*—Acid. Boric. Ung., Camphor Ball, Ceratum Petrolei, Collodium, Glycerin. cum Aquâ Rosæ, Vaseline, *Cucumeris Ung., Lanoline, Mollin.*

**Chilblains.**—*Local*—Acid. Boric. Ung., Acid. Carbolic. Ung., Aconit. Linim., Belladonnæ Linim. and Linim. Co., Cajuput Ol., Capsici Linim., Eucalypti Ol. Ung., Iodi Tinct. Decolor., Iodi Ung., Iodoform Wool and Ung., Oleanodyne, Plumbi Subacet. Glycerin., Glycerini Plumbi. Subacet. Ung.

**Chlorosis.**—Arsenic, Ferri Amara Mist., Ferri Aper. Mist., Ferri Co. Mist., Ferri Carb. Pil. (Blaud), Ferri Dialysat. Liq., Ferri Perchlorid. Tinct., Ferri Sulph. Pil., Hypophosphites, Myrrh et Aloes Pil., Phosphorus, *Cetrarin, Cupri Arsenis, Ferri Bromid., Ferri Carb. Sacch., Hæmogallol, Hæmol, Mistura Ferri Arsenicalis, Manganesii Oxidum, Santonin, Tinctura Ferri Pomata, Levico Water, mild and strong,* Ferratin, Tinct. Martis.—Carniferrin, Ferro-Somatose, Lacto-Somatose, Somatose, *Arsen-Hæmal, Bromo-Hæmol,* ***Vanadates.***

**Cholera.**—Camphora, Chloromorphiæ Liq., Copper Salts, Coto and Cotoin, Hydrarg. cum Cretâ., Hydrarg. Subchlorid. cum Opio, Morphina, Opium, Paracotoin, Plumbi Acet., Plumbi cum Opio Pil., *Cresol Salicylas, Cupri Arsenis, Resorcin,* **Atropine injection, Hypod. injections of Quinine Hydro-**

chlorosulphate and Carbamide, Mistura Anti-Choleraica, Tannin rectal injection, Tribromophenol-Bismuth.—Antitoxin of Haffkine, *Pil. Cupri Comp.*

**Chordee.**—Aconite, Belladonna, Bromides, Camphora, Cannabis, Canthar. Tinct. (one minim hourly), Chloral Hydras, Morphinæ inj. hypod., Opii Suppos.

**Chorēa.**—Actæa, Arsenic, Calcii Chlorid., Chloral Hydras, Cimicifugin, Conium and Coninæ Hydrobrom., Curara, Ergota, Ferri Bromid., Ferri Phosph., Morrhuæ Ol., Phosphorus, Physostigma and Physostigmine, Strychnine, Valerianates, Zinci Bromid. and Oxid., *Antipyrine, Cannabis and Chloral, Inula Helenium, Scutellaria, Hæmol, Arsen and Bromo-Hæmol.*

**Colic.**—Æther, Belladonna, Calcis Aqua (for infants), Cajuput. Ol., Camphora, Chloroform, Chloromorphiæ Liq., Menth. Pip. Ol., Morphine preps., Opium preps., *Tinctura Carminativa.*

**Collapse and Fainting.**—Æther inj. hypod., Æther. Spt., and Spt. Co., Alcohol, Ammon. Arom. Spt., Ammon. Vapor, Amyl Nitris., Digitalis Tinct. and Inj. Hypod. 20 m.

**Conjunctivitis.**—*Local*— Acid. Boric., Alumen, Belladonna, Boroglyceride, Hydrarg. cum Morphinâ Oleat., Hydrarg. Oxid. Flav. Ung., Hydroquinone, Opii Vinum, Resorcin, Zinc. Sulph. Lotio, *Iodol*, Collyrium Adstringens Luteum, Thioform, *Ol. Ricini and preps.*

**Conjunctivitis, Diphtheritic.** — *Local* — Quininæ Sulph. Lotio., Hydroquinone, Resorcin, *Iodol.*—Formaldehyde.

**Constipation.**—Aloes and Aloin, Belladonna, Cascara, Coloc. Co. Pil., Coloc. Co. cum Hyoscy. Pil., Emblic Myrabolans, Glycyrrh. Co. Pulv., Hydrarg. Subchlorid., Iridin, Juglandin, Magnes. Sulph., Nux Vomic., Podophyllin, Rhamnus Frangula, Rhei Co. Pil., Rhei Co. Pulv., Ricini Ol., Scammon. Co. Pil., Seidlitz Powders, Senna, Sennæ Confect., Sennæ Co. Mist., Sodii Phosph. Efferves., Sodii Sulphas Efferves., Sodio-Magnes. Sulph. Efferves., Sulphur, Sulphur. Confect., *Cascara Sagrada and Capsules, Elixir, Pastils and Syrup of, Convolvulin, [illegible], [illegible] Suppositoria, [illegible] and Suppos., Jalapin, Ricini Ol. Mist., [illegible] Elixir, Sodii Sulpho-ricinas, Tinct. Laxativa,* Caffeine-Chloral, Compound Capsules of Castor Oil, Pil. Cascara Comp., Sodii Sulpho-Ricinas, *Elixir [illegible], Guaiacum and Sulphur Tablets, Mist. Laxativa, Mist. [illegible] Lax., Ol. Ricini et Glycerini, partes æquales, Tinct. Aloes Co.*

**Convulsions.** — Amyl Nitris, Anæsthetics, Camphor. Monobrom., Chloral Suppos., Morphine preps., Podophyllin, Potassii Bromid., Sodii Bromid., Sodii Nitris, Bromalin. Rubidium Bromide, *Chloroform.*

**Convulsions, Puerperal.**—Anæsthetics, Chloral Hydras, Nitroglycerin, Pilocarpine, *Verat., [illegible], Chloroform.*

**Cornea, Inflammation, and Ulcers of.**—*Local*— Atropine, Belladonna, Cocain. Hydroch. Liquor, Daturine, Duboisine, Eserine, Hydroquinone, Pilocarpine, Hydrarg. Oxid. Flav. Ung., Hydrarg. Subchlorid., *Infusum Abri, Fluorescein and Cyanin (diagnostic).*

**Corns.**—See **Warts.**

**Coryza.**—See **Catarrh Nasal,** and **Hay Fever.**

**Cough.**—Acid. Hydrobromic., Belladonna, Benzol, Bryonia, Camphor. Co. Tinct., Chloral Hydras, Codeina, Conium, Gelsemium, Helenin, Hyoscyamus, Morphinæ Linctus, Morphinæ Troch., Morphinæ et Ipecac. Troch., Narceina, Opium preps., Picis Liq. Fil., Piscidia, Prunus Virginiana, Terpin Hydrate, *Creosote inhaled*, *Terebenum*, *Terpinol*, Linctus Camphor. Comp., *Antitussin*, *Dionin*, *Heroin*.

**Croup, True.**—*Internal*—Acid. Lactic., Aconite and Aconiti Pastillus, Alumen, Ammon. Carb., Antimony, Bromides, Calcii Sulphid., Ipecacuanha, Zinci Sulph.——*Local*—Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Acid. Tannic. Nebula, Calcis Aquæ Nebula, *Inula Helenium*, *Calomel*.

**Croup, False.**—See **Laryngismus Stridulus.**

**Debility.**—Alcohol, Arsenic preps., Calcii Phosph., Calumba, Cinchona preps., Gentiana, Hypophosphites, Iron Salts, Maltum, Morrhuæ Ol., Phosphorus, Quassia, Quininæ preps., Strychnine, *Calcii Hypophosph. Syrup*, *Elixir Ferri Phosphat. cum Quininâ et Strychninâ*, *Morrhuol*, *Levico Water, mild and strong*, Bone Marrow Extract, Phloridzin, Ferratin, Glycerophosphates, Somatose, *[illegible]*, *Arsen-Hæmol*, *Bromo-Hæmol*, *Bovril*.

**Delirium Tremens,** and see **Alcoholism.**—Alcohol, Ammon. Carb., Bromides, Camphora Monobromata, Capsicum, Chloral, Digitalis, Hyoscyamine, Opium preps., Phosphorus, Quinine preps., Strychnine, Veratrum viride, *Antifebrin*, *Hyoscine*, *Methylal*, *Sulphonal*, *Auri Chlorid*.

**Diabetes.**—Acid. Lactic., Codeina, Convallaria, Glycerin, Hydrogen Peroxide, Jaborandi, Opium, Oxygen, Ozonic Ether, Sodii Salicylas, Thymol, Sodii Arsenias, Uranii Nitras, *Antipyrine*, *Codeinæ Pil. Comp.*, *Creosotum*, *Jambul*, *Morphina*, *Oxygen*, *Phosphorus*, *Saccharin, elixir and tabellæ of*, *Soya bread*, Aminol, Dulcin, Laevulose, Pancreatine, *Alkalies*, *Glaucium luteum*, *Levurine*, *Nuclein*.

**Diarrhœa.**—*Internal*—Acid. Carbolic., Acid. Gallic., Acid. Sulph. Dil. and Aromat., Agaricus albus and Agaricin, Anthemis, Bismuth preps., Calcis Aqua, Calcii Carb., Camphora, Catechu, Coto Tinct., Cotoin, Cretæ Arom. Pulv., and cum Opio, Cupri Sulph., Eucalyptus Gum, Ferri Pernit. Liq., Guarana, Hydrarg. cum Cretâ, Ipecac. Co. Pulv., Kino, Leptandrin, Myricin, Opium preps., Plumbi Acet., Podophyllin, Ricini Ol.——*Local*—Acid. Tannic. Suppos., and cum Opio, Amyli Enema, and cum Opio, Gallæ Suppos. and cum Opio, Turpentine Stupes.——*Internal*—*Abies Canadensis*, *Acid. Camphoric.*, *Acid. Lactic.*, *Benzo-naphthol*, *Berberine*, *Bismuthi Salicylas*, *Bismuthi et Cerii Salicylas*, *Calcii Salicylas*, *Cannabis*, *Cupri Arsenis*, *Ferri Salicylas*, *Geranium maculatum*, *Naphthalin*, *Naphthol*, *Quininæ Salicylas*, *Resorcin*, *Safrol*, *Sodii Phosphas*, Eucalypteol, Salacetol, Tannigen, Tannin rectal injection, Tribromophenol-Bismuth.—Bismal. *Anthemidis Tinct.*, *Cupri Sulphocarbol.*, *Fortoin*, *Honthin*, *Tannocol*, *Taphosote*, *Mist. Ol. Ricini, and Mist. Antiseptica U.C.H. for infants.*

**Diphtheria.**—*Internal*—Acid. Salicylic., Calx Sulphurata, Ferri Perchlorid., Pilocarpine, Sodii Hyposulphis., Sodii Chloras.——*Local*—Acid. Benzoic. Nebula, Acid. Carbolic. Glycerin. and Nebula, Acid. Lactic. Nebula, Acid. Sulphuros.

Nebula, Argent. Nit., Calcis. Aquæ Nebula, Chinoline, Chlori Aqua, Eucalypti Ol. and Vapor, Hydroquinone, Papayotin, Pepsin. Glycerin. Acid., Resorcin, Sodii Benzoatis Nebula, Sodii Chlorinat. Liquor, *Acid. Salicylicum and Sulphurosum, Bromol, Inula and oil pigment, Iodol pigment, Menthol pigment, Naphthol cum Camphora, Ozonic Ether, Papain pigment, Sodii Benzoas, Tribromophenol*, Antitoxin and Serum, Formol, Salactol, *Amytols, Metasol.*

**Dipsomania.**—See **Alcoholism.**

**Dropsy, Cardiac.**—Asparagin, Caffeine, Convallaria majalis, Delphina, Digitalis, Digitalin, Elaterium, Erythrophlœum, Strophanthus, Veratrum Viride, Iodo-Caffeine, Symphorol.

**Dropsy, Hepatic.**—Ammon. Benzoas, Ammon. Chlorid., Copaibæ Bals., Hydrarg. Pil., Hydrarg. Subchlorid., Sodii Bicarb., Taraxacum, *Sparteinæ Sulphas, Ulexine.*

**Dropsy, Renal.**—Apocynum Cannabinum, Buchu, Delphina, Elaterium, Hydrarg. Pil., Jalapa, Juniperus, Pilocarpine, Potass. Acet., Potass. Tart. Acida, Potassii Iodid., Potass. Nit., Scilla, Sodii Iodid., *Blatta orientalis*, Iodo-Caffeine, Iodo-Theobromine, Symphorol, *Caffeina, Diuretin.*

**Dysentery.**—Belæ Fructus, Eucalypti Gum., Guarana, Hæmatoxylum, Hamamelis, Hydrarg. Perchlorid., Ipecacuanha, Ipecac. Co. Pulv., Opium, Plumbi Acetas, Terebenum purum, Terebinth. Ol., and Stupes of, *Bismuthi et Cerii Salicylas, Cannabis, Cupri Arsenis, Ipecacuanha sine Emetina, Naphthalin.* Indurjao, *Cupri Sulphocarb., Pil. Cupri Co.*

**Dysmenorrhœa.**—Actæa, Æther Spt. cum Opii. Tinct., Amyl Nitris, Anemonin, Apiol, Butyl Chloral, Cannabis and Cannabin Tannas, Carbon. Tetrachlor. Vapor, Cimicifugin, Gossypii Rad. Cort., Potass. Bromid., Pulsatilla, Serpentaria, Valerian, *Antipyrine, Cannabis and Chloral, Hydrastis and preps., Salix nigra, Sodii Salicylas, Viburnum prunifolium.*

**Dyspepsia.**—Acid. Carbolic. Perle and Pil., Acid. Nit. Dil., Acid. Hydroch. Dil., Aloes and Aloin, Ammon. Carb., Argent. Nit. and Oxid., Arsenic, Belladonna, Bismuth. Carb. Oxychlorid. and Subnit., Capsicum. Cerii Oxalas, Creosote, Emblic Myrabolans, Gentiana, Gingerin, Hydrarg. cum Creta, Hydrastis, Hydrocyanic Acid, Leptandrin, Malti Ext., Menispermin, Nux Vomica, Pancreatin, Papayotin, Pepsin, Podophyllin, Quinine preps., Rhei Rad., Rumicin, Salicin, Sanguinarin, Sodii Bicarb., Sodii Sulphocarb., Stillingia. *Condurango, Orexine, Papain Glycerin. Acid., Pepsin and Bismuth tablets, Sodii Hyposulphis, Sodii Taurocholas, Strontii Lactas, Troch. Antacidi*, Bismuthi Sulphis, Potass. Bichromas, Quassin, *Bismuthi Benzoas, Oxy-bromid., Phosphas.Sulpho.Carbol., Calcii Peroxid., Creosoti Valerianas, Tinct. Rhei Aquos, Monsonia.*

**Dyspnœa.**—Æther Spt., Æthyl Iodid., Alcohol, Amyl Nitris, Lobelia, Ozonic Ether, Quebracho and Aspidospermine, *Nitroglycerin, Potassii Cobalto-nitris, Sodii Nitris, Erythrol Nitrate tablets.*

**Earache.**—*Local.*—Atropinæ Liquor or Oleatum (diluted), Chloroformi Vapor, Cocaina cum Oleo, Morphinæ Oleatum (diluted), Opii Tinct. cum Oleo, *Delphina in Spirit or in Ung.*

**Eczema.**—*Internal*—Arsenic preps. Iron Salts, Morrhuæ Ol., Phosphorus, Sulphides, Sulphur.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Chrysarobini Ung. (weak), Acid. Salicylic. Ung., Bismuth Nit. Glycerin., Calaminæ Lotio, Calcis Aqua, Calcis Linim., Diachyli Ung., Huile de Cade, Kaolin Ung., Naphthol, Plumbi Stearas, Plumbi Subacet. Glycerin. and Ung., Tar, Thymol, Zinci Cremor, Zinci Oleat. Pulv. and Ung., Zinci Ung., *Aristol, Creolin, Dermatol, Europhen, Ichthyol and Collodion and paste of, Lanoline, Mollin, Resorcin, Thio-resorcin, Thiol, Zinci Boras, Alkaline lotions*, Epidermin, Gallanol, *Æthol, Borsyl, Collargol Euresol, Icthalbin, Naftalan, Ung. Hydrarg. Ammon, Petrosulfol.*

**Emetics.**—Apomorphine inject. hypod., Antim. Tart. and Vinum, Cephaëline, Emetine, Ipecac., and Vinum, Mustard, Sodii Chloridum, Zinci Sulphas.

**Endocarditis.**—*Belladonna, Caffeina, Coronillæ Ext., Digitalis, Levarine, Nuclein and Anti-Streptococcic Serum.*

**Epilepsy.**—Ammon. Bromid., Amyl Nitris, Argent. Nit., Arsenic, Atropine, Belladonna, Borax, Bromal-Hydras, Brucia, Camphora Monobromata, Cannabis, Cupri Ammon-Sulph., Cypripedin, Iron Salts, Ozonic Ether, Picrotoxin, Potass. Bromid., Simulo, Sodii Bromid., Sodii Nitris, Strychnine, Valerianates, Zinci Bromid., Citras, Lactas, and Sulphas, *Æthyleni Bromid., Amyleni Hydras, Antifebrin, Auri Bromid. und Chlorid., Elepizone, Nitroglycerin tablets or Liquor, Rubidium-Ammonium Bromide, Scutellarin, Strontii Bromid., Viscum album*, Adonis, Auri et Potass. Bromid., Liquor Auri et Arsenii Brom. and Liquor Auri et Hydrarg. Bromid., Bromalin, Rubidium Bromide, *Brominol, Bromipin.*

**Epistaxis.**—*Internal*—Acid. Gallic., Aconite, Digitalis, Ergotæ inj. hypod., Ferri Perchlorid., Ferri Pernit. Liq., Ferro-Alumen, Hamamelis, Terebinth. Ol.——*Local*—Acid. Tannic., Alumen, Hamamelis, Matico, Styptic Colloid, *Ferri et Quininæ Chloridum*, Acid. Chloracetic.

**Erysipelas.**—*Internal*—Aconite, Belladonna, Digitalis, Ergot, Ferri Perchlorid., Veratrum viride.——*Local*—Acid. Sulphuros. Lotio, Amylum, Amyli Glycerin., Argent. Nit., Belladonnæ Glycerin., Calaminæ Lotio, Cocainæ Ceratum, Collodium, Creosotum et Amylum, Ergotine in Sol., Gossyp. Acid. Boric., Iodi Pigment., Potassii Silicatis Sol., *Antifebrin, Acid. Picric. Pigment*, Aconitina and Granules of, Anti-streptococcic Serum.

**Erythema.**—*Local*—Amyli Glycerin., Anthemid. Infus., Diachyli Ung., Kaolin and Lotio or Ung., Papav. Infus., Plumbi Subacet. Lotio., Vaseline, Zinci Oxid. and Ung.

**Exophthalmic Goitre.**—Belladonna, Digitalis, Duboisine, Iron Salts, Quinine preps, Thyroid feeding and preps., *Iodum int. and ext., Potass. Iodid.*

**Eye: Pupil, Contractors of.**—Jaborandi and Pilocarpine, Opium and Morphine, Physostigma, Physostigmine.

**Eye: Pupil, Dilators of.**—Belladonna and Atropine, Cocaine, Daturine, Duboisine, Homatropine, Hyoscyamine, Nicotine, *Hyoscine salts, Mandragorine, Salicylate and Santonate of Atropine*, Scopolaminæ Hydrobromid.—Euphthalmine.

Mydrine, *Ephedrine, Guttæ Homat. c. Cocaina, Oleum Atropinæ, Oleum Atroscinæ, Oleum Homatropinæ.*

**Eye: Local Dilators, but Contract** when given internally in suitable doses—Gelseminine, Muscarine.

**Fainting.**—See **Collapse.**

**Favus.**—See **Parasites, Vegetable, of Skin.**

**Fetid Breath.**—See **Breath, Fetid.**

**Fetid Perspiration.**—See **Perspiration, Fetid.**

**Fetid Nasal Discharges.**—See **Ozæna.**

**Fever.**—Acid. Salicylic., Aconite, Ammon. Acet. Liq. and Carb., Antimony, Antipyrine, Belladonna, Chinoline, Cinchonine, Cinchonidinæ Sulph., Digitalis, Eucalyptus Globulus, Gelsemium, Kairine, Piperine, Potass. Acet. Chloras and Citras, Quinine preps., Quinidinæ Sulph., Quinetum, Salicin, Sodii Salicylas, Thallin, Veratrum viride, Warburg's Tincture, *Acetanilide, Acid. Cresotic., Antifebrin, Antithermin, Benzanilide, Euphorin, Hydracetin, Methacetin, Monobromacetanilide, Phenacetin, Phenazone, Phenocoll Hydrochlor., Pyrodin, Salipyrin, Sodii Cresotas,* Granules d'Aconitine, Thermodin, *Malarin, Phenalgin.*

**Fissures of Nipples.**—*Local*—Acid. Tannic. Glycerin., Alcohol, Argent. Nit., Calcis Aqua, Cocainæ Hydroch. Liquor, Collodium Flexile, Hydrastis Tinct., Plumbi Subacet. Glycerin., Styptic Colloid.

**Flatulence.**—Acid. Carbolic., Acid. Sulphuros., Æther. Spt., Asafetida, Bismuth preps., Capsicum, Carbo Ligni, Chloromorphiæ Liquor, Creosote, Magnesia preps., Menispermin, Menth. Pip. Ol., Nux Vomica, Sodii Bicarb., Sulphocarbolates, Zingiberis Tinct., *Tinct. Carminativa,* Betel, Phenosalyl, *Naphthaline, Naphthol.*

**Gall Stones** and **Hepatic Colic.** Æther Spt., Amyl Nitris, Anæsthetics, Chloral Hydras, Iridin, Morphine preps., Nitroglycerin, Podophyllin, *Perles of Ether and Turpentine.*

**Gastralgia.**—Acid. Hydrocyanic. Dil., Æther. Spt., Alkalis, Belladonna, Bismuth, Calcis Aqua, Cerii Oxalas, Chloroform, Chloromorphiæ Liq., Creosote, Magnesia, Manganesii Oxid., Pepsin, *Bismuthi Salicylas, Coca and Cocaina, Codeina, Bismuthi Oxy-Bromid.*

**Gastric Catarrh.**—See **Catarrh, Gastric.**

**Gastro-Enteritis.**—*Calcii Salicylas, Sodii Cresotas, Strontium Salts, Collargol.*

**Glands, Enlarged.** *Internal*—Calcii Chlorid., Ferri Iodid. and Iron Salts, Iodoform, Iodum, Morrhuæ Ol., Potass. Iodid., Sodii Iodid.—*Local*—Cadmii Iodid. Ung., Hydrarg. Oleat. and Emplast., Iodi Decolor. Tinct., Iod. Linim. and Ung., Potass. Iodid. Ung.

**Glaucoma.**—*Local*—Physostigminæ Sulph. *and Oleum,* Pilocarpina.

**Gleet.**—See **Gonorrhœa.**

**Goitre.**—*Internal*—Acid. Hydrofluoric. Dil., Hydrarg. Biniodid., Iodum, Phosphorus, Potass. Iodid., Sodii Iodid. —*Local*—Acid. Acetic. inj. hypod., Acid. Osmic. inj., Hydrarg. Biniodid. Ung., Hydrarg. Oleat., Hydrarg. Ung., Iodi inj. hypod. T.H., Iodi Linim. and Ung., Thyroid feeding and preps.

**Gonorrhœa.**—*Internal*—Aconite, Copaiba, Cubebs, Iron Salts, Potash Salts, Saline Aperients, Santali Ol.——*Local*—Acid. Carbolic., Acid. Sulphuros., Acid. Tannic., Argent. Nit., Belladonna, Bougies Urethral (see Index), Eucalyptus Oil emulsified, Hydrarg. Perchlor., Hydrastis Tinct., Iodoform, Iodof. et Eucalypti Cereolus, Iodoformi Cereolus, Potass. Permang., Sodii Silicat. Sol., Zinci Chlorid. Permang. and Sulphocarb., *Antrophores of Thallin*, *Bismuthi Oxyiodidum*, *Europhen*, *Wood Wool Bags*, Alumnol Argentamine.——*Internal*—*Acid. Cubebic.*, *Kava-Kava*, *Resorcin*, *Salix nigra*, Pichi.—Argentol, Argonin, Iodoformal, Protargol, *Collargol*, *Largin*.

**Gout.**—Aconite, Asparagin, Colchicum and Colchicin, Coto and Cotoin, Guaiacum, Lithii Carb. and Citras, Manganese Salts, Potass. Citras and Iodid., Sodii Phosph., Sodii Benzoas, Hippuras and Iodid., Sulphides, *Bromal Hydras*, *Kava-Kava*, *Lithii Hippuras*, *Piperazine and Aërated Water of*, *Sodii Taurocholas*, *Siegesbeckia orientalis*.——*Local*—*Morphinæ Inject. Hypod.*, Asaprol, Granular Eff. Piperazine and Phenocoll, Lithii Tart. Acid., Lycetol. Uricedin, Uropherin.—Colchicinæ Salicylas (*capsules*), Lysidine. Urotropine, *Acid. Quinic.*, *Chino-tropin*, *Colocynthis*, *Piperidin Guaiacolas and Tartras*, *Magnes. et Sodii Sulph.*, *Sidonal*, *Thialion*, *Urosin*, *Ursal*.

**Gums, Inflamed, and Spongy.**—*Local*—Alumen, Iodi Tinct., and cum Aconiti Tinct., Krameriæ Tinct., Myrrhæ et Boracis Tinct., Potass. Chloras, Pastil, Tablet and Troch., Pyrethri Tinct., Sodii Chloras and Troch., *Acid. Carbolic.*

**Hæmatemesis.**—Acid. Gallic., Acid. Sulph. Dil., Alumen, Ergota, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol.

**Hæmaturia.**—Acid. Gallic., Antimony, Camphor, Cannabis, Ergota, Ferro-Alumen, Hamamelis, Terebinth. Ol., *Erigeron Canadense*.

**Hæmoptysis.**—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Alumen, Digitalis, Ergota and Ergotin, Hamamelis, Opium., *Abies Canadensis*, *Antipyrine*, *Atropine*, *Erigeron Canadense*.

**Hæmorrhage.**—*Internal*—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Cupri Sulph., Digitalis, Ergota, Ergotin, Eucalyptus Gum, Ferro-Alumen, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol. —*Local*—Acid. Tannic., Alumen, Catechu, Cupri Sulph., Eucalyptus Gum, Ferri Perchlorid., Ferro-Alumen, Hamamelis, Matico, Styptic Colloid, Zinci Chlorid. Liq.——*Internal*—*Cornutine*, *Ferri et Quininæ Chlorid.*, *Hæmatoxylum*, *Potassii Succinas*.——*Local*—*Bryonia*, Formanilide, Monsel's Solution, *Cupri Sulphocarbolas*, *Erigeron Oleum*, *Gelatin*.

**Hæmorrhage, Post Partum.**—*Internal*—Acid. Sclerotic., Amyl Nitris, Ergota, Ergotin inj. hypod., Ergotinini inj. hypod., Gossypii Rad. Cort., Opium with Alcohol.——*Local*—Alumen, Ferri Perchlorid. Gossyp. and Liquor.——*Internal*—*Caffeinæ inject.*, *Cannabis and Chloral*, *Cornutine*, *Ferri et Quininæ Chlorid.*, *Nux vomica*, *Strychnina and salts*.

**Hæmorrhoids.**— *Internal* — Aloes, Cascara Sagrada, Hamamelis, Liquiritiæ Co. Pulv., Piper. Conf., Rhamnus Frangula, Senna and Conf., Sulphur, *Rhus Toxicodendron.*——*Local*—Acid. Boric. Ung., Acid. Nit. (caustic), Gallæ cum Opio Ung., Hamamelis, and Suppos. of, Plumbi. Subacet. Glyc. and Ung. *Chrysarobin, Coninæ Ung., Hamamelid. Liq., Anusol, Ung., Hydrarg. Subchlor.*

**Hay Fever.**—*Internal*—Ammonii Chlorid., Anthoxanthum, Belladonna, Grindelia, Potass. Iodid., Quinine preps. —— *Local*—Acid. Salicylic. Pulv., Bismuth. Co. Pulv., Carbolised Smelling Salts, Carbon. Tetrachlor. Vapor, Cocain. Hydroch. Liquor, Quininæ Collunarium, Stramonium Fumes. *Douche of Iodide of Mercury*, 1 *in* 2000—*Inhalation—Camphor, Eucalypti Oleum, Menthol, Menthol and Camphor.—Internal—Euphorbia Pilulifera, Zinci Valerianas*, Pigmentum Antisepticum, *Supra-Renal Extract (excellent).*

**Headache, Bilious or Sick**—Euonymin, Guarana, Hydrastis, Iridin, Juglandin, Leptandrin, Myricin, Podophyllin, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves., Chloro-Sodio-Magnesian Aperient, *Antipyrine, Phenacetin.*

**Headache, Congestive or Inflammatory.**—Actæa, Ammon. Chlorid., Antimony, Crotonis Ol., Hydrarg. Subchlorid., Ricini Ol., Veratri Viridis Tinct., *Salicylates of Sodium &c., Antipyrine.*

**Headache, Nervous.**— Acid. Hydrocyanic., Actæa, Ammon. Arom. Spt., Arsenic, Belladonna, Bromides, Butyl Chloral, Caffeine, Camphora, Cannabis, Cimicifugin, Ferri Valerianas, Guarana, Iron Salts, Nitroglycerin, Quininæ Valerianas, Theine, Zinci Lactas, Oxidum and Valerianas, *Antipyrine, Auri Bromid., Methylene Blue, Phenacetin, Phenazone*, Auri Bromidum, Migranin, Iodo-Caffeine, Iodo-Theobromine.—Apolysin.

**Hectic Fever.**—Acid. Benzoic. and Benzoates, Acid. Salicylic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Gelsemium, Quinine preps., Salicin, Salicylates, *Phenocoll.*

**Herpes, and Zoster.**—*Internal* —Morphinæ inj. hypod. (for pain), Quinine preps., Salines and Saline Aperients.——*Local*—Amyli Glycerin., Cocainæ Ceratum, Collodium, Hydrarg. Ammon. Ung., *Ichthyol*, Menthol (for pain), Vaseline, Zinci Oleat. Ung., Zinci Ung., *Anodyne Colloid local.*

**Hiccough.**—Æther. Spt., Camphora, Chloral, Chlorof. Spt., Morphine preps., Sodæ Bicarb., *Amyl Nitris, Extract. Ergotæ Liq. and Sodii Bicarb.*

**Hordeolum.**—*Local*—Argent. Nit., Belladonnæ Fotus, Hydrarg. c. Morphinâ Oleat., Iodi Tinct., *Ung. Hydrarg. Oxidi Flavi.*

**Hydrophobia**—Anæsthetics, Amyl Nitris, Cannabis Indica and Cannabin, Chloral, Curara, Morphine, Nitroglycerin, Pelletierine, Physostigma and Physostigmine, Pilocarpine, *Hoang Nan, Hydrogen Peroxide*, Rabies Antitoxin.

**Hysteria.**—Actæa, Asafetida, Bromides, Cannabis Indica, Cypripedin, Iron Salts, Nux Vomica, Phosphorus, Pulsatilla, Quinine preps., Strychnine, Valerian and Valerianates, Zinc Salts, *Auri Chlorid., Cannabin Tannate*, Auri Bromidum, Auri et Potassii Bromidum, *Validol.*

**Impetigo.**—*Internal*—Arsenic, Iron Salts, Mineral Acids, Morrhuæ Ol., Phosphorus, Quinine preps., Zinc Salts.——*Local*—Acid. Tannic. Glycerin., Hydrarg. Ammon. Ung., and Hydrarg. Ammon. cum Sulph. Ung., Iodoform. and Ung., Zinci Oleat. Ung., Zinci Oxid. Ung.

**Impotence.**—Arsenic, Cannabis Indica and Cannabin Tannas, Cantharides, Coca and Cocaine, Damiana, Ergota and Ergotin, Ferri Perchlorid., Nux Vomica, Phosphorus, Sanguinaria, Strychnine, Zinci Phosphid., Piperazina, Spermin.

**Incontinence of Semen.**—Belladonna, Ergota, Ferri Perchlorid., Ferri Phosph., and Ferri Phosph. c. Quin. et Strych. Syrup., Gokhru, *Antipyrine*, *Salix nigra.*

**Incontinence of Urine.**—Belladonna, Calcii Phosph., Cantharides, Ergota, Ferri Iodid., Ferri Perchlorid., Gokhru, *Antipyrine*, *Camphor. Monobrom.*, *Lycopodii Tinct.*, *Naphthalin.*

**Indigestion.**—See **Dyspepsia.**

**Inflammation.**—*Internal*—Aconite, Antimony, Belladonna, Digitalis, Gelsemium, Hydrarg. Subchlorid. and cum Opio, Opium, Quinine preps., Salicin, Veratrina, *Antifebrin*, *Antipyrine*, *Kairin*, Granules d'Aconitine, Thermodin.

**Influenza.**—Actæa, Ammon. Acet. Liq., Æth. Nit. Spt. Ammoniæ Spt. Aromat., Antim. Tart., Camphor, Hydrocyanic Acid, Ipecac. Co. Pulv., Opium and Morphine preps., Quinine preps.——*Local*—Cocain. Hydroch. Liquor., Inhalations of Eucalypti Ol. Menthol, Menthol and Camphor.—Internal—Salicinum, Sodii Salicylas, *Acid. Carbolic.*, *Benzol*, *Cinnamomi Ol.*, *Phenacetinum*, Migranin.—Apolysin, Nosophen, *Salipyrin.*

**Insomnia.**—Ammon. Bromid., Bromal Hydras, Butyl Chloral, Camphor, Camphor Monobrom., Cannabis Indica and Cannabin, Chloral, Coca, Codeina, Hyoscyamine, Lupulin, Morphine, Narceine, Opium, Paraldehyde, Papaverina, Piscidia, Potassii Bromid., Sodii Bromid., Stramonium, *Acetanilide*, *Acetophenone*, *Antifebrin*, *Antipyrine*, *Amyleni Hydras*, *Bromidia*, *Chloralamide*, *Chloralimide*, *Chlorobrom*, *Hypnal*, *Hypnone*, *Metaldehyde*, *Methylal*, *Phenazone*, *Strychnina and its salts*, *Somnal*, *Sulphonal*, *Tetronal*, *Trional*, *Uralium*, *Urethane*, Chloralose, Liquor Bromo Chloral Comp., Scopolaminæ Hydrobromid., Syrupus cum Narceina, *Anusol*, *Chloretone*, *Dormiol*, *Hedonal.*

**Intertrigo.**—Acid. Boric. and Ung., Acid. Tannic. Glycerin., Calaminæ Lotio, Calcis Aqua. Calcii Carb., Camphor, Fuller's Earth, Kaolin, Vaseline, Zinci Cremor and Ung., Zinci Oleat. Pulv., *Bism. Sulpho-Cyanid.*, *French Chalk.*

**Intestinal Worms.**—See **Parasites, Intestinal.**

**Iritis.**—*Internal*—Colchicum, Iodum, Hydrarg. Perchlorid. and Subchlorid., Potass. Iod.——*Local*—Atropina cum Vaselin., Atropinæ Sulph. Guttæ and Lamellæ, Belladonna, Duboisine.

**Itch.**—See **Scabies.**

**Jaundice.**—Acid. Nitro-Hydroch. Dil., Aloes, Ammon. Chlorid., Benzoates, Euonymin, Hydrarg. cum Cretâ, Hydrarg. Subchlor., Hydrastis, Iridin, Manganesii Oxid. and Mangan. Sulph., Podophyllin, Sennæ Co. Mist., Sodii Phosphas and Sodii Phosph. Efferves., Sodii Sulphas, and Sodii Sulph. Efferves., Stillingia, Taraxacum, *Ferri Succinas.*

**Laryngismus Stridulus.**—Amyl Nitris, Bromides, Chloral, Coninæ Hydrobrom., Emetin, Piscidia.

**Laryngitis, Acute.**—Aconiti Tinct. and Pastil., Æthyl Iodid. (for Œdema), Ammon. Acetat. Liq., Antimony, Benzoini Vapor, Hydrarg. Subchlor., Juniper. Vapor, Pulsatilla, Thymol Vapor, Acid. Tannic. et Aluminis Gargarisma, Acid. Tannic. Glycerin, Argent. Nit.——*Local*—*Acid. Lactic*, Acid. and Sodii Sulphanilic.

**Laryngitis, Chronic.**—*Local*—Bismuthi Oxychloridi cum Morphinâ Insufflatio, Catechu Pulv. Insufflatio, Creosoti Vapor, Eucalypti Gum. Insufflatio, Juniperi Vapor, Pini Sylvestris Vapor, *Menthol paint and insufflation.*

**Leprosy.**—Anacardium, Gurjun Balsam, Gynocardiæ Ol., *Hoang Nan*, Serum.

**Leucocythemia.**—Digitalis, Hypophosphites, Iodine, Iron Salts, Phosphorus, Zinci Phosphid, *Acid. Arseniosum, Acid. Carbonic. (inhaled).*

**Leucorrhœa.**—*Internal*—Iron Salts, Mineral Acids, Vegetable Tonics.——*Local*—Acid. Carbolic. Lotio, Acid. Boric. Lotio, Alumen, Hydrastis, Pulsatilla, Potassii Permang., Sodii Silicat. Liquor, Tannin and Alum Injection, Zinci Sulphocarb., *Abies Canadensis, Boric Acid in powder, Pessus Quininæ.*

**Locomotor Ataxy.**—Argent. Nit., Argent. Oxid. Morrhuæ Ol., Phosphorus, Physostigma, Pilocarpine, *Acetanilide, Aluminii Chlorid., Antifebrin, Antipyrine, Phenazone, Potass. Iodid., Ung. Hydrarg.*

**Lumbago.**—*Internal*—Actæa, Atropine, Belladonna, Capsicum, Cimicifugin, Colchicum, Colocynthis, Morphina inj. hypod., Potass. Iodid.——*Local*—Atropinæ Linim., Belladonnæ Linim., Capsici Linim., Menthol Linim., Opii Linim., Picis Empl., Veratrinæ Ung.—Apolysin.—*All Purgatives.*

**Lupus.**—*Internal*—Amyli Iodid., Arsenic, Gynocard. Ol., Iodum, Morrhuæ Ol., Phosphorus, Quinine preps.——*Local*—Acid. Chromic., Camphora Salicylata, Gynocardiæ Ung., Iodoform, Petrolei Ceratum, Zinci Chlorid. Pasta, Zinci Ung., *Acid. Lactic., Auri Chlorid., Hydroxylamine, Lassar's Paste, Lysol, Potassii Cantharidas, Tuberculin, Tuberculocidin, Resorcin.* Acid. Cinnamic., Collodium Salicylic., Gold preps., Potass. Cantharidas, Thiosinamin.—Airol.

**Mammary Abscess.** See **Breast, Inflammation of.**

**Mania.**—Actæa, Atropine, Bromides, Cannabis and Cannabin Tannas, Chloral Hydras, Conine, Daturine, Digitalis, Duboisine, Gelsemina, Hyoscyamine, Morphine preps., Opium preps., Paraldehyde, *Hyoscine salts, Sulphonal.*

**Measles.**—Aconite, and Pastil of, Æther Nit. Spt., Ammon. Acet. Liq., Ammon. Carb., Ipecacuanha, Potass. Tart. Acidus.

**Melancholia.**—Bromides, Camphora, Coca and Cocaine, Cannabis, and Cannabin Tannas, Musk, Nux Vomica, Phosphorus, Valerianates, *Damiana, Brominol, Bromipin.*

**Menière's Disease.**—Acid. Salicylic., Bromides, Gelsemium, Gelsemine, Pelletierine.

**Menorrhagia.**—Acid. Gallic., Acid. Sclerotic., Acid. Sulph. Dil., Bromides, Cannabin, Digitalis, Ergota, Ergotin, Ferro-Alumen, Hamamelis, Iron Persalts, Vinca Major, *Hydrastis.*—Beberinæ Sulphas, Salipyrin.

**Migraine.**—See **Headache, Nervous.**

**Milk, to increase flow.**— Acid. Lactic., Jaborandi and Pilocarpine, Malti Ext.——*Local*—Jatropha Curcas, and Ricinus Communis, leaves and oil of.

**Milk, to arrest flow.**—*Internal*—Agaricus albus and Agaricin, Belladonna and Atropine, Conium, Ergota, Saline Purgatives, Sodii Iodid. —— *Local* — Belladonnæ Empl. Glycerin. and Linim., Tabaci Cataplasm.

**Morphine Habit.**—*Cactus, Cocaina, Sodii Bromidum, Sparteinæ Sulphas,* Nitroglycerin.

**Myalgia** —*Internal*—Actæa, Ammon. Chlorid., Atropinæ inj. hypod., Cimicifugin, Iron Salts, Morphinæ inj. hypod., Salicylates.——*Local*—Belladonnæ Glycerin. and Linim., Capsici Empl. and Linim., Ether Spray, Iodi Linim., Menthol, Opium (in poultice), Veratrinæ Ung.

**Myxœdema.**—Arsenic, Iron Salts, Jaborandi, Nitroglycerin, Pilocarpine, Strychnine Preps., Thyroid feeding and preps

**Nasal Catarrh.**—See **Catarrh, Nasal.**

**Nævi.**—*Local*—Acid. Chromic., Acid. Nitric., Collodium, Sodii Ethylas, Zinci Chlorid. Iodid. and Nitras.

**Nephritis.**—Buchu, Copaiba, Gokhru, Hordei Dec., Jaborandi, Lini. Infus., Pareira, Santal. Ol., Triticum Repens, Uva Ursi. *Rubus Chamæmorus,* Iodo-Caffeine, Iodo-Theobromine, Strontii Lactas, Symphorol.

**Nervous Debility, Nervousness.**—Acid. Hydrobromic., Acid. Phosph. Dil., Ammon. Bromid., Asafetida, Camphora, Chloral Hydras, Cimicifugin, Cypripedin, Ignatiæ Tinct., Lavand. Co. Tinct., Phosphorus, Piscidia, Potass. Bromid., Quinine preps., Quininæ Valerianas, Salicin, Scutellarin, Strychnine, Sumbul, Zinci Valerianas, *Sulphonal,* Calcii Glycerophosphas, Ferri Glycerophosphas, Liquor Auri et Arsenii Bromidi, Liquor Auri et Hydrarg. Brom., Spermin. *Auri et Sodii Chlorid., Bromipin, Cannabis Indica, Ferric Salts, Validol.*

**Neuralgia.**—*Internal* Aconite, Actæa, Ammon. Chlorid., Aci Succus, Arsenic, Beberinæ Sulph., Bromides, Butyl Chloral, Caffeine, Chloral-Hydras, Cinchonine, Cinchonidinæ Sulph., Colchicum and Colchicine, Conium and Coninæ Hydrobromid., Gelsemitin and Gelsemin, Hyoscyamine, Iron Salts, Narceine, Nitroglycerin, Phosphorus, Quinine preps., Quininæ Hydrobrom., Theine, Tonga. —— *Local* — Aconiti Linim., Aconitinæ Ung., Belladonnæ Linim. and cum Chloroform., Chloral Hydras cum Camphor, and cum Menthol, Chloroform, Delphinæ Ung., Menthol, Menthol Linim., Morphinæ Oleat., Oleanodyne, Opii Linim., Po-ho-yo, Veratrinæ Ung., *Æther (injected), Æthyl Chlorid., Belladonnæ Collodium et Tinct. Ætherea, Chloroformum Aconiti, Delphina, Menthol cum Aconitina, Methyl Chloridum.—Internal—Antipyrine, Cannabina, Exalgin, Euphorin, Methylene Blue, Monobromacetanilide, Phenacetin, Phenazone, Salicylates and Salol,* Formanilide, Lactophenin, Liquor Bromo-Chloral Comp., Malakine, Neurodin, Salocoll, Tolysal.—Apolysin.

**Night Sweats.**—Acid. Gallic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Amyl Nitris, Atropine and inj. hypod., Belladonna, Calcii Chlorid., Coto and Cotoin, Homatropine, Hypophosphites, Ipecac. Co. Pulv., Iron Salts, Jaborandi and Pilocarpine, Muscarinæ Nit., Picrotoxin, Quinine preps., Zinci Oxid., *Acid. Camphoric., Acid. Hypophosph. and Hypophosphites, Guaiacol Carb., Sodii Telluras, Hyoscinæ Hydrobrom.*

**Nipples, Fissures of, and Sore.**—See **Fissures of Nipples.**

**Nymphomania and Satyriasis.**—Bromides, Camphor, Conium, Tabaci Folia.

**Obesity.**—Alkalis and Alkaline Carbonates, Fucus Vesiculosus, Iodum, Potassii Iodidum.

**Ophthalmia.**—See **Conjunctivitis.**

**Ophthalmia Tarsi.**—*Local*—Acid. Boric. Lotio and Ung., Hydrarg. Oxid. Flav. Ung., Iodoform. Ung., Glycerini Plumbi Subacetatis Ung.

**Orchitis.**—Anemonin, Phytolacca.

**Otitis.**—Acid. Sulphanilic., Diaphtherin, Sodii Sulphanilas.

**Otorrhœa.**—*Local*—Acid. Tannic. Glycerin., Argent. Nit. and Bism. Insuffl. T.H., Alum. Insuffl., Alum and Bism. Insuffl. T.H., Calendula, Carbonis Deterg. Liq. (as Lotion), Acid. Boric. Insufflat., Iodoform Wool and Insuffl. cum Bismutho T.H.

**Ovarian Pain.**—*Ammonii Chlorid., Antipyrin, Castor. Tinct., Pulsatilla, Sumbul Tinct.*

**Ozæna.**—*Local*—Acid. Boric. Lot. and Ung., Acid. Carbolic. Buginarium, Aldehydi Vapor, Alumen, Alumin. Acet. Liq., Creosoti Vapor, Cupri Sulph. Buginarium, Eucalypti Globuli Infus. and Tinctura, Iodoformi Buginarium, Iodoformi Rosat. Ung., Potass. Permangan. Lotio, Sanitas (toilet), Sodii Chlorinat. Liq., Sodii Chlorid., Sodii Silic. Sol., Thymol Lotio, Zinci Sulphocarb., Zinci Sulph. Buginarium, *Aristol, Europhen, Menthol spray and pigment, Hydrocotyle Asiatica,* Alumnol, Salumin.—Antinosin, Nosophen. *Inula Helenium.*

**Palpitation.**—Aconite, Bromides, Camphora, Cannabis, Cimicifuga, Convallaria, Digitalis, Valerianates.

**Paralysis Agitans.**—Hypophosphites, Hyoscyamus, Iron Salts, Phosphorus, Physostigma, Strychnine, *Hyoscina*

**Paralysis, Diphtheritic.**—Iron Salts, Pepsin, Nux Vomica, Ferri Iodid., *Strychnina inj. hypod.*

**Paralysis, Hemiplegia.**—Ergota, Iron Salts, Nux Vomica, Phosphorus, Physostigma and Physostigmine, *Damiana.*

**Paralysis, Paraplegia.**—Ergota, Hypophosphites of Iron, Calcium and Sodium, Iron Salts, Ergota, Phosphorus, Physostigma and Physostigmine, Rhus Tinct., Strychnine, *Damiana.*

**Parasites, Animal, on Skin.**—*Local*—Hydrarg. Oleat., Hydrarg. Perchlorid. Lotio and Ung., Hydrarg. Ammon. Ung., Naphthalin Ung., Naphthol Ung., Pyrethri

Flores Pulv. and Tinct., Sapo Viridis, Staphisagria, Sulphur Baths Lotion and Ung., Sulphurated Lime Lotion, Lotio Hydrarg. Acetic, *Ol. Sassafras.*

**Parasites, Vegetable, on Skin.**—*Local*—Acid. Boric., Acid. Carbolic., Acid. Chrysophanic. Ung., Acid. Sulphuros., Hydrarg. Oleat., Phosphor. Ol., Picrotoxin Pigment., Sodii Hyposulphit. Lotio., Thymol Ung., Losophan.

**Parasites, Intestinal Worms.**—Areca (Ascarides and Lumbrici), Cambogia, Ferri Perchlorid. Enema (Ascarides), Filix Mas (Tænia), Hydrarg. Subchlorid., Jalapa, Kamala (Tænia), Cousso (Tænia), Mucuna, Pelletierinæ Sulph. and Tannas (Tænia), Quassiæ Enema (Ascarides), Santonin and Sodii Santonas (Ascarides and Lumbrici), Scammonium, Terebinth. Ol., *Acid. Filicic. (Tænia), Naphthalin, Papain (Ascarides), Sethia acuminata, Santoninoxim,* Bismuthi Sulphis.—Tenaline, *Anacardii Tinct., Thymol Carbonate.*

**Pericarditis.**—*Belladonna Emp. and Liniment., Digitalis, Levurine, Mercury preps., Nuclein, Potass. and Sodii Iodid.*

**Peritonitis.**—Aconite, Digitalis, Hydrarg. Subchlorid. cum Opio, Opium, Opium and Belladonna, Veratrum Viride, *Antifebrin, Antipyrine, Kairin.*

**Perspiration, Excessive.**—*Internal*—Acid. Phosph. Dil., Acid. Sulph. Aromat., Atropine and inj. hypod., Belladonna, Ergota, Jaborandi and Pilocarpine, Picrotoxin, Quinine preps.——*Local*—Amyli Pulv., Diachyli Ung., Kaolin, Tannin, Zinci Oleat. Pulv. and cum Thymol., Zinci Oxid., *Abies Canadensis, Naphthol,* Emol.——*Internal*—*Acid. Agaric., Sulphonal.*

**Perspiration, Fetid.**—*Local*—Acid. Boric. Lotio. and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Pulv. cum Talco, Aluminii Acet. Lotio, Belladonnæ Linim., Diachyli Ung., Glycerini Plumbi Subacet. Ung., Salicylic Suet, Zinci Oleat. cum Thymol, *Tannoform.*

**Phthisis.**—Acid. Lactic. and Lactates, Aconite, Æthyl Iodid., Arsenic, Benzoates, Caffeine, Calcii Chlorid., Calcii Hypophosph. and Phosph., Codeine, Coto, Creosotum, Gynocardiæ Ol. (externally), Iodi Linim. and Vapor, Ipecac. Nebula, Iron Salts, Morrhuæ Ol., Pancreatin, Pepsin, Picrotoxin, Piscidia, Prunus Virginiana, Quinine preps., Salicin, Salicylic Acid and Salicylates, Sodii Hypophosph., Terebenæ Vapor, Verbascum Thapsus, *Acetanilide, Acid. Camphoric., Acid. Hypophosph. and Hypophosphites, Acid. Phenylacetic., Acid. Phenylpropionic., Acid. Tannic., Aniline treatment, Antifebrin, Antipyrine, Aristol, Benzosol, Chlorphenol, Fluoric Acid and Ammonium Fluoride inhalations, Guaiacol and Carbonate, Helenin, Iodopyrin, Lipanin, Menthol spray, Morrhuæ Ol. Emuls., Naphthol cum Camphora, Oxygen, Phenazonum, Potassii Cantharidas, Potassii Telluras, Resorcin (Laryngeal), Sodii Hypophosph. Syrup., Sulphuretted Hydrogen treatment, Tuberculin,* Acid. Cinnamic., Allium preps., Elixir Creosoti, Ol. Morrhuæ c. Creosoto, Creosoti Carbonas, Oleo-Creosote, Eucalypteol, Ol. Morrhuæ c. Æthere, Emulsio Ol. Morrhuæ et Hypophosphitum, Emulsio Petrolei, Terrol.—Ferratin, Glycerophosphates, Somatose, Maragliano's Serum, Tuberculin R. *Cacodylates, Vanadates, Creosoti Valerianas, Creosoform, Dionin, Heroin, Guathol*

*Guiacol Cacodylas, Camphoras, Cinnamas, Phosphas, Guaia-Quinine, Guaiaform, Guaicol-Salol, Liq. Arsenic. Cinnamic., Phenol Sodii Sulpho-Ricinas, Thiocol, Urea.*

**Piles.**—See **Hæmorrhoids.**

**Pityriasis.**—*Local*—Acid. Boric. Lotio. and Ung., Acid. Chrysophanic Ung., Boracis Glycerin. and Lotio, Gynocardiæ Ung., Huile de Cade, Picis Ung., Glycerini Plumb. Subacet. Ung., Lotio Resorcini.

**Plague, The.**—*Antitoxic Serums of Haffkine and Yersin.*

**Pleurisy.**—Aconite, Ammon. Acet. Liquor, Antimony, Bryonia, Jaborandi, Lyttæ Empl., Morphine preps., Potass. Iodid., Quinine preps., *Apocynum cannabinum (for Pleuritic effusion), Sodii Salicylas.*

**Pleurodynia.**—See **Myalgia.**

**Pneumonia.**—Acid. Salicylic., Aconite, Ammon. Carb., and Chlorid., Antimony, Digitalis, Hyoscyamus, Morphine preps., Quinine preps., Salines, Veratrum viride, *Caffeine, Chloral and Digitalis, Hypophosphites, Oxygen, Sodii Creosotas.*

**Poisons.**—See **Antidotes and Emetics.**

**Post-Partum Hæmorrhage.**—See **Hæmorrhage.**

**Pregnancy, Vomiting of.**—Belladonna, Bismuth preps., Cerii Oxalas, Chloroform, Creosote, Hydrocyanic Acid, Ingluvin, Ipecac. Vin., Iridin, Menthol, Morphine preps. and inj. hypod., Nux Vomica, Pepsin, Quinine preps., *Antipyrine, Spt. Nucis Juglandis.*

**Prurigo.**—*Internal*—Arsenic, Bromides, Iron Salts, Pilocarpine, Quinine preps.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Borax, Cocainæ Ceratum, Iodoformi Ung., Pilocarpine, Staphisagria, Sulphur. Ung., Sulph. cum Hydrarg. Ung., Tar, *Ichthyol, Liq. Ammon. Dilut., Liq. Hydrarg. Perchlor., Liq. Plumbi Subacet. Dilut.*

**Pruritus Ani, Vulvæ, &c.**—*Local*—Acid. Benzoic., Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Ung., Acid. Sulphurous. Lotio, Alkalis (Lotion of), Alumen, Argent. Nit. Sol., Carbonis Liq. Lotio., Chloroformi Ung., Cocainæ Ceratum, Gallæ cum Opio Ung., Hydrarg. Oleat., and cum Morphinâ. Hydrarg. Subchlorid. Ung. and Lotio Nigra, Glycerini Plumbi Subacet. Ung., Potass. Cyanid. Lotio, Tannin, *Conii Ung., Menthol, Mentholcate, Menthol et Boracis Lotio.*—Eucaine, Orthoform, *Epicarin.*

**Psoriasis.**—*Internal*—Arsenic preps., Cantharides, Gynocardiæ Ol., Hydrarg. Iodid. Viride, Iron Salts, Morrhuæ Ol., Phosphorus, Quinine preps., Sulphur.——*Local*—Acid. Carbolic. Ung., Acid. Chrysophanic. Ung., Acid. Pyrogallic. Ung., Acid. Salicylic. Ung., Betulæ Pyrolig. Ol., Carbonis Liq. Lotio, Fagi Pyrolig. Ol., Gynocardiæ Ol., Huile de Cade and Ung., Ichthyol, Picis Ung., Rusci Pyrolig. Ol., Sulphides (in Baths), Sulphuris Hypochloritis Ung., *Anthrarobin, Europhen, Gallacetophenone, Hydracetin, Hydroxylamine, Lanoline, Mollin, Naphthol, Lemon Water, mild and strong,* Pil. Asiatica, Gallanol, Granula Dioscoridis. *Epicarin, Eugallol, Eurobin, Lenigallol, Lenirobin.*

**Puerperal Fever.**—Acid. Boric, Jaborandi and Pilocarpine, Ferri Perchlorid., Opium, Quinine, Terebinth. Ol., *Antifebrin, Antipyrine,*—Anti-Streptococcic Serum.

**Pupil of Eye:** to contract and dilate.—See **Eye.**

**Purpura.**—Acid. Gallic., Acid. Sulphuric. Dil., Ergota Iron Salts, Phosphorus, Quinine preps., Terebinthinæ Oleum, *Lime Juice, Calcii Chloridum.*

**Pyæmia.**—Acid. Salicylic, Eucalyptus Globulus, Kairine, Quinine preps., Resorcin, Salicin, Sulphites.—Anti-Streptococcic Serum. *Lecurin, Nuclein.*

**Pyrexia.**—See **Fever.**

**Pyrosis.**—Acid. Hydrocyanic., Acid. Hydrochlor. Dil., Acid. Nit. Dil., Acid. Sulphuros., Bismuth preps., Carbo Ligni, Cerii Oxalas, Magnesia, Manganesii Oxid., Sodii Bicarb., Sodii Sulphocarbolas.

**Quinsy.**—See **Throat Inflammation.**

**Remittent Fever.**—Apiol, Eucalyptus Globulus, Narcotina, Quinine and other Cinchona Alkaloids, Salicin, Warburg's Tincture.

**Rheumatism, Acute.**—Acid. Benzoic and Benzoates, Acid. Salicylic and Salicylates, Aconite, Actæa and Cimicifugin, Colchicum and Colchicin, Coto and Cotoin, Ferri Perchlorid., Lemon or Lime Juice, Opium, Ozonic Ether, Potass. Bicarb. Cit. and Nit., Quinine preps., Salicin, Trimethylamine, *Acetanilide, Acid. Cresotic., Antifebrin, Antipyrine, Cresol Salicylas, Euphorin, Methacetin, Phenazonum, Phenocoll Hydrochlor., Salicylamide, Salipyrin, Salol, Salophen, Sodii Cresotas, Sodii Dithio-salicylas,* Agathin, Asaprol, Caffeine-Chloral, Formanilide, Lactophenin, Malakin, Methyl Salicylas, Rubidium Iodid., Salocoll, Tolysal, *Aceto-pyrin, Aspirin, Fluor-rheumin.*

**Rheumatism, Chronic.**—*Internal*—Actæa, Antim. Sulphurat., Arsenic, Cimicifuga, Cinchonidinæ Salicylas, Colchicum, Ferri Iodid. Syr., Ferri Salicylas., Gelsemium, Guaiacum, Iodum., Phytolaccin, Podophyllin, Potass. Iodid., and cum Quininâ, Rhus.——*Local*—Atropinæ Linim., Bellad. Linim. and Linim. Co., Camph. Co. Linim., Capsici. Emp. and Linim., Chloral cum Camphor., Eucalyptus Oil., Opii Linim., Pini Sylvest. Oleum.——*Internal—Betol, Gaultheriæ Oleum, Ichthyol, Lithii Hippuras, Methylene Blue, Pelletierina, Pilocarpina.——Local—Belladonnæ Chloroformum and Tinct.Ætherea, Capsici Tinct. Ætherea,* Alphol, Conf. Guaiaci Comp., Granular Eff. Piperazine and Phenocoll, Lycetol, Piperazina, Uricedin. Colchicinæ Salicylas, *Amyl Salicylas, Aspirin, Fluor Rheumin, Gyrol Pencils, Naftalan, Safrol, Ursal, Vanadates.*

**Rheumatoid Arthritis.**—Actæa, Arsenic, Colchicum, Ferri Salicylas, Lithii Carb. and Citras., Morrhuæ Ol., Potass. Bromid. and Iodid., Sulphides (Baths of).

**Rickets.**—Acid. Phosph. Dil., Calcii et Ferri Phosph. Pil., Calcis. Liq. Sacch., Calcii Chlorid., Calcii Phosph., Calcii Lactophosph. Syr., and cum Ferro, Ferri Phosph. Syr., and Comp., Morrhuæ Ol., Ferri Vinum, Wheat Phosphates, Saccharated, *Calcii Hypophosph. Syrup., Liq. Ferri Hypophosph. Comp., Phosphorus.*—Carniferrin, Ferratin, Somatose.

**Ringworm.**—See **Tinea.**

**Salivation.**—*Internal*—Acid. Hydroch. Dil., Chlorates, Coto. —— *Local*—Acid. Boric., Alumen, Borax, Chlorates, Creosoti Vapor.

**Sarcinæ.**—Acid. Sulphuros., Calcii Chlorid., Sodii Hyposulphis, Sodii Sulphis, Sodii Salicylas.

**Satyriasis.**—See **Nymphomania.**

**Scabies.**—*Local*—Calcis. Sulphurat. Lotio, Hydrarg. Perchlorid. Ung., Naphthalin Ung., Naphthol Ung., Potass. Sulphurat. Balnea, Styracis Ung., Sulphur. Ung., Sapo Viridis. *Creolin, Mollin, Epicarin.*

**Scalds.**—See **Burns.**

**Scarlatina.**—Acid. Salicylic., Aconite, Ammon. Carb., Belladonna, Ozonic Ether, Potassii or Sodii Chloras, *Crotalus, Eucalypti Tinct.*

**Sciatica.**—*Internal*—Actæa and Cimicifugin, Atropine, Colchicum and Colchicin, Croton Ol., Lithii Citras, Morphinæ inj. hypod., Potass. Iodid., Tereb. Ol. ——*Local*—Aconitinæ Ung., Bellad. Linim., Chloroform Linim., Menthol, Menthol cum Camphorâ, Menthol Linim., Veratrinæ Ung., *Ether injection, Methyl Chloridum.* —*Internal*—*Acetanilide, Antifebrin, Antipyrine, Phenazone, Potassii Osmas, Salipyrin. Salol, Sodii Salicylas*, Agathin, Alphol, Cont. Guaiaci Comp., Piperazina, Uricedin.—Apolysin.

**Scrofula.**—Calcii Phosph., Calcii Sulphid., Calcii Chlorid., Ferri et Calcii Phosph. Pil., Ferri Iodid. Syr., Ferri Phosph., Hydrarg. Iodid. Virid., Iodum., Iodoform., Morrhuæ Ol., Quinine preps., *Morrhuæ Ol. Emuls.*, Ferratin, *Calcinol.*

**Scurvy.**—Lime Juice, Lemon Juice, Phosphorus, Potass. Chloras and Citras, Sassafras.

**Sea-Sickness.**—Amyl Nitris, Chloral Hydras, Chloroform, and Tinct. Co., Cocainæ Hydrochlorid., Morphinæ inj. hypod., Nitroglycerin Tablets ($\frac{1}{100}$ gr.), Potass. Bromid., Sodii Bromid., Sodii Nitris, *Antipyrine, Chlorobrom., Cocaine tablets and solutions, Eucalypti Troch., Hyoscyamina, Phenazone, Resorcin*, Acid. Carbolic., Acid. Hydrobromic., Chloralamide. —*Local*—*Icebags.*

**Septicæmia.**—See **Pyæmia.**

**Shingles.**—See **Herpes Zoster.**

**Sleeplessness.**—See **Insomnia.**

**Snake-bite.**—See **Bites and Stings.**

**Spasm.**—Aconite, Æther, Ammon. Arom. Spt., Amyl Nitris, Atropinæ inj. hypod., Cajuput. Ol., Camphora, and Camphor. Spt. Fort., Chloroform, and inhaled, Chloromorphiæ Liq., Conina, Menth. Pip. Ol., Opium, Piscidia. Erythrol Nitrate Tablets, Mannitol Nitrate Tablets.

**Spina Bifida.**—*Local*—Iod. Linim., Iodo-Glycerin inject.

**Stomatitis.**—*Internal*—Eucalypti Globuli Tinct., Hydrastis, Potassii Chloras, Sodii Chloras. —*Local*—Acid. Boric., Acid. Carbolic., Acid. Salicylic., Acid. Sulphuros, Alumen, Borac. Glyc. and Mel., Calcis Aqua, Cupri Sulph., Myrrhæ et Boracis Tinct., Sodii Chloras. —See *Pastils.*

**Sunstroke.**—Apomorphina, Atropinæ inj. hypod., Enemata purgativa, Morphinæ inj. hypod., Quinine, Sinapis Emplast.

**Syphilis, Constitutional.**—*Internal*—Ammon. Iodid., Amyli Iodid., Ferri Iodid. Syrup, Hydrarg. cum Cretâ, Hydrarg. Cyanid. Pil., Hydrarg. Iodid. Rub. and inj. hypod. Hydrarg. Iodid. Viride, Hydrarg. Perchlorid., Hydrarg. Pil. Hydrarg. Subchlorid., Hydrarg. Tannas, Iodum, Phytolacca, Potass. Iodid., Sarsa, Sodii Iodid., Stillingia, *Auri Chlorid.*, *Condurango*, *Manaca*, *Hydrargyri Benzoas*, *Carbolas*, *Salicylas*, *Succinimidum and Thymolacetas*, *Hydrarg. et Potass. Iodid.*, *Siegesbeckia orientalis*, *Succus alterans*, *Syrupus Acidi Hydriodici.*——*Local*—Hydrarg. Oleat. and cum Morphinâ, Hydrarg. Ung., "*Grey Oil*" *inject.*, *Hydrargyri Lanolinum*, *Hydrarg. Oxid. inject. with Asparagin and Formamide* Sozoiodol-Mercury Injection.——*Internal.*—Hydrarg. Gallas, Rubidii Iodid., Strontii Iodidum, *Hyrgol*, *Iodipin*, *Mercurol*, *Hydriodol.*

**Syphilis, Skin Diseases.**—*Local*—Hydrarg. Ammon. Ung., Hydrarg. Emplast., Hydrarg. Nit. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid. Ung., Hydrarg. Subchlorid. Balnea Fumigation and Ung., Hydrarg. Ung. Iodoformi Gossypium and Ung., Pix Liquida, Resorcin, *Europhen*, *Sozoiodol*, Auri Bromidum, *Iodipin.*

**Syphilitic Sore Throat.**—Alum. Garg., Borax Garg. and Mel Boracis, Hydrarg. Cyanid. Garg., Hydrarg. Perchlorid. et Potass. Chlorat. Pastil., Hydrarg. Perchlorid. Garg., Iodoformi Insufflatio and Pastil., Potass. Chlorat Garg. Pastil. and Troch., Sodii Chloras Garg. and Troch., *Insufflatio Iodoformi Comp.*

**Syphilitic Ulcers.**—*Local*—Amyli Iodid Pasta, Hydrarg. Acid. Nit. Liq., Hydrarg. Oleat. and cum Morphinâ, Hydrarg. Flava and Nig. Lotio, Hydrarg. Subchlorid., Iodoform and Collodium cum Iodoformo, Iodoform Wool, Iodoformi Ung., Resorcin, Zinci Chlorid. Iodid. and Nitras, *Acid. Chromic.*, *Aristol*, *Cinchoninæ Iodomercuras and Iodosulphas*, *Euphorin*, *Europhen*, *Collod. Salicylic. c. Hydrarg. Perchlor.*, *Iodol*, *Hydrarg. Naphthol*, *Thio-resorcin*, *and Di-iodo-thio-resorcin.*

**Tænia.**—See **Parasites, Intestinal.**

**Tetanus.**—Amyl Nitris, Cannabis, Chloral Hydras, Conine Curara, Gelsemium, Morphine, Nicotine, Opium, Pelletierine, Physostigma and Physostigmine, *Acid. Carbolic.*, *Coninæ Hydrobromid.*, *Hydrogen Peroxide*, *Pilocarpina*, *Strophanthus*, *Urethane*, Antitoxin.—Phenol inj. hyp.

**Thirst, to Relieve.**—Acid. Citric., Acid. Phosph. Dil., Acid. Sulph. Aromat., Acid. Tartaric., Coca, Elixir Acid., Potass. Tart. Acidus.

**Throat, Inflammation of, and Tonsillitis**—*Internal*—Acid. Salicylic., Aconiti Tinct. and Pastil, Antimony, Belladonna, Ferri Salicylas, Quininæ Salicylas.——*Local*—Benzoin. Tinct. Vapor, Iodi Vapor, Juniperi Ol. Vapor, Chlorates in Pastil and Troch., Lupulin Vapor.——*Internal*—*Antifebrin*, *Antipyrine*, *Cocaine*, *Pigment of*, *Salicylates*, *Sodii Benzoas.*—Antinosin, *Guaiacum and Sulphur tablets*, *Jephson's powder*, *Liq. Ferri Perchlor.*

**Throat, Relaxed Sore.**—*Local*—Acid. Carbolic. Pastil. and Vapor, Acid. Hydroch. Dil., Acid. Tannic Garg. and Glycerin., Alumen and Glyc. Aluminis, Argent. Nit., Benzoin. Tinct. Vapor, Bismuth. Pastil., Catechu Insuffl., Eucalyptus Gum Insuffl., Ferri Perchlorid. Pigment., Ferro

Alumen, Guaiaci Troch., Pini Sylvest. Vapor, Uranii Nitras, *Ammonii Chloridi Vapor, Geranium maculatum, Hydrastis as gargle.*

**Thrush.**—See **Aphthæ.**

**Tinea Favosa, and Sycosis.**—*Local*—Acid. Carbolic. Glycerin., Chrysarobinum, Acid. Sulphuros., Anacardium, Cupri Oleat. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid. Lotio., Iodi Linim., Menthol, Picrotoxin Pigment, Sodii Hyposulph. Lotio, *Ichthyol, Lanoline.*—Formaldehyde. *Nicotinæ Salicylas.*

**Tinea Tarsi.**—See **Ophthalmia Tarsi.**

**Tinea Tonsurans.**—*Local* As for **T. Favosa** and—Cantharid. Pigment, Hydrarg. Nit. Acid. Ung., Iodi et Olei Picis Pigment., Iodized Phenol, *Siegesbeckia orientalis, Coster's Paste, Hydronaphthol Plaster.*—Formaldehyde, *Anacardii Oleum.*

**Tinea Versicolor.**—*Local*—Acid. Chrysophanic., Acid. Sulphuros., Borac. Glycerin., Lotio Calcii Sulphurati, Gynocard. Ol., Sodii Hyposulph. Lotio.—Formaldehyde.

**Toothache.**—*Internal* Acid. Hydrobromic, Butyl-Chloral Hydras, Gelsemium, Gelseminæ Hydroch., Gelsemine, Morphinæ inj. hypod., Piscidiæ Ext. Fluid., Quin. Tinct. Ammon. ——*Local*—Acid. Arsenios., Acid. Carbolic., Butyl Chloral cum Menthol, Caryophyll. Ol., Chloroform. cum Camph., Chloroform. cum Mastic., Cocaina, Creosotum, Iodi et Aconiti Tinct., Opii Tinct., Pyrethri Tinct., *Eugenol, Phenol Sodique, Potassii Permanganas,* Pasta Arsenicalis, Sodii Peroxidum.

**Trichinosis.**—Ergota, Ergotin, Sclerotic Acid, *Liquor Arsenicalis.*

**Tuberculosis.** See **Phthisis.**

**Typhoid Fever.**—Acid. Salicylic. and Salicylates, Ammon. Carb., Cinchona Alkaloids, Ergota (for Intestinal Hæmorrhage), Eucalyptus Globulus, Kairine, Sodii Chloras, *Acid. Lactic., Bromol, Cupri Arsenis, Hydrarg. Naphtol-acetas, Hydrogen Peroxide, Iodopyrine, Naphthalene, Naphthol, Thallin, Thymol, Tribromophenol,* Eucalypteol, Naphthalene. ***Anti-Typhoid Inoculation.***

**Typhus Fever.**—Antimony, Ammon. Carb., Belladonna, Cinchona Alkaloids, Eucalyptus Globulus, Hydrastis, Kairine.

**Ulcers.**—*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Gossypium and Ung., Argent. Nit., Belladonnæ Glycerin., Carbonis Cataplasm, Chartazine, Collodium, Cupri Oleat. Ung., Eucalypti Ung., Fermenti Cataplasm., Hydrogen Peroxid., Plumbi Subacet. Glycerin. and Ung., Potass. Permang., Resinæ Ung., and Res. Ung. cum Chlorof., Sanitas, Styptic Colloid, Zinci Chlorid., Zinci Oleat. Ung., Zinci Sulph. Lotio, *Bismuthi Oxyiodid., Eucalembroth gauze, Eucalyptus Sawdust, Galium Aparine, Iodol, Lanoline, Naphthalin, Papain, Resorcin, Salol,* Airol, Izal, Loretin, Oxygen, Phenosalyl, Solutol.—Actol, Iodoformin, Itrol, Orthoform, Sanoform, *Hetocresol.*

**Urine, Incontinence of.**—See **Incontinence.**

**Urine, Tests for Albumin.**—Acidulated Brine solution; *Asaprol; Esbach's Test; Heller's Test; Millard's*

*Test;* Millon's test; Picric Acid; *Salicyl-sulphonic Acid; Spiegler's Test;* Sodium Tungstate; Ferrocyanic Acid Pellets; *Trichloracetic Acid.—See Tests.*

**Urine, Tests for Sugar.**—Ammoniated cupric test of Pavy, Cupric Pellets, Fehling's solution, and glass capsules of; Phenyl-hydrazine and Hydrochloride; Safranine, *Nitropropiol.*

**Uræmia.**—Amyl Nitris, Caffeine, Digitalis, Elaterin. Pulv. Co., Jaborandi and Pilocarpine, Jalapæ Pulvis Co., Nitroglycerin, Scilla, Scoparii Succus, *Apocynum Cannabinum, Lithii Hippuras, Potassii Cobalto-nitris, Sodii Benzoas, Thialion, Urosin.*

**Urticaria.**—*Internal*—Apis Mellificæ Tinct., Bromides, Mistura Alba, Sodii Bicarb.——*Local*—Acid. Benzoic. Lotio, Acid. Boric. Lotio, Acid. Carbolic. Lotio, Acid. Hydrocyanic. Dil. Lotio, Chloroform. Ung., Cocainæ Ceratum, Plumbi cum Lacte Lotio, Sodii Carb. Balnea.——*Internal—Antipyrine.*

**Uterus, Catarrh of.**—See **Catarrh, Uterine.**

**Uterus, To cause Contraction of.**—Borax, Caulophyllin, Cimicifuga, Ergota, Ergotin, Ergotinine, Gossypii Rad. Cortex., Hamamelis. Sclerotic Acid, *Hydrastis, Ustilago Maidis.*

**Variola, To prevent Pitting.**—Acid. Boric. Ung., Acid. Carbolic. Ol., Amyli Glyc., Argent Nit., Calcis Linim., Collodium, Hydrarg. Ung., Styptic Colloid., Zinci Oleat. Ung.

**Vertigo.**—Caffeine, Guarana, Quininæ Valerian., Ammon. Spt. Arom., Strychnine, Zinci Valerianas, Auri Bromid.

**Vomiting.**—Acid. Carbolic, Acid. Carbonic., Acid. Hydrocyanic. Dil., Beef Essence (Brand's), Belladonna, Bismuth Preps., Calcii Chlorid., Calcis Aqua, Cerii Oxalas, Chloral, Chloroform preps., Ingluvin, Ipecacuanha, Liquor Sodæ Effervescens, Magnes. Carb. Liq., Morphinæ inj. hypod , Nitroglycerin, Nux Vomica, Potass. Bicarb. cum Acid. Citric. Mist. Efferves., Sodii Phosph. Effervescens, *Berberina, Coca and Cocaina.*

**Warts and Corns.**—*Local*—Acid. Acetic. Glaciale, Acid. Carbolic., Acid. Chromic., Acid. Nit., Boroglyceride, Collodium Salicylicum, Collodium Callosum, Anacardium, Argent. Nit., Iodi Linim., Papayotin, Potassæ Liquor, Thuja, *Collodium Salicylicum c. Acid. Lactic,* Emol, *Formalin, Paraform Collodion.*

**Whooping-Cough.**—Acid. Benzoic. and Benzoates, Acid. Hydrocyanic. Dil., Alumen, Amyl Nitris, Atropine, Belladonna, Bromides, Bryonia, Calcis Aqua, Camphora Monobrom., Cannabis, Chloral, Conium, Ergot, Gelsemium, Grindelia, Himrod's Cure, Lobelia, Narceina, Opium, Ozonic Ether, Potass. Carb., Senega, Succini. Ol. (external), Stramonium, Zinci Oxid. and Sulphas.——*Internal—Acid. Carbolic, Glyc., Antipyrine, Apomorphinæ Hydrochlorid. (minute doses). Benzol, Bromoform, Naphthalene, Ouabain, Phenacetin, Phenazonum, Rubidium-Ammonium Bromide. Inhalation.—Acid., Fluoric., Naphthalene,* Antispasmin, Syrup cum Narceina *Antitussin, Carbon Dioxide per rectum.*

**Worms.**—See **Parasites, Intestinal.**

**Wounds.**—*Local*—Acid. Benzoic. Lotio, Acid. Boric. Lotio and Ung., Acid Carbolic. Carbasus, Lotio and Ung., Acid. Salicylic. Lotio and Ung., Aluminii Acet. Lotio, Arnica, Benzoin. Tinct., Calendula, Camphora Salicylata and Gossypium, Chartazinc, Collodium, Eucalypti Carbasus and Ung., Hydrarg. Perchlor. Lotio, Iodoform, Iodoform Wool and Ung., Kaolin Ung., Petrolei Cerat., Plumbi Subacet. cum Petroleo Ung., Potass. Permang., Resorcin, Styptic Colloid, Thymol Lotio, Zinci Chlorid., Zinci Sulphatis Lotio, *Alembroth gauze, Aristol, Dermatol, Europhen, Emplastrum Lithii-Ichthyol, Eucalembroth gauze, Hydrargyri Naphthol-acetas, Hydronaphthol, Iodoformi Emuls., Iodol, Lanoline, Mercuro-Zinc Cyanide and Gauze, Microcidine, Naphthalene, Naphthol-Camphor, Pyoktanin, Salol, Sanitary Wood Wool Wadding, Sodii Fluo-silicas, Sozoiodol, Sphagnum, Sublimate Lotiforms, Sulphaminol, Thio-resorcin, Zinci Sulphis,* Airol, Alumnol, Liq. Hydrogen. Peroxidi., Di-iodoform, Epidermin, Izal, Listerine, Loretin, Solutol, Sozal. Trikresol.—Actol. Antinosin, Iodoformal. Iodoformin, Itrol. Nosophen, Sanoform, Solveol, Alcohol 75°/$_0$ (steriliser of skin). *Icthargan, Iodoformogen, Iodolene, Iodomenthol, Kresolum, Traumatol.*

**Yellow Fever.** — Antifebrin, Antipyrine, Cinchonine, Kairine, Jaborandi, Pilocarpine, Piperina, Quinina, Warburg's Tincture.

**Zoster.**—See **Herpes.**

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